

A Science Magazine from CTW, the Creators of Sesame Street.

October 1984

321 CONTACT

**Flying
Firefighters!**





Triple Cross

Can you figure out what categories these items go into? Look at the first row across. Figure out how a bat, the moon, and a cricket may be alike. Do the same with the second row and the third. Next, look at the rows that go down. Figure out what a bat, a firefly, and a kite have in common. Then do the last two rows, and you won't be puzzled anymore! (Answers on page 35.)

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Cover Photo © David Strick/SIPA-Special Features

Fire in the Forest!

SMOKEJUMPERS TO THE RESCUE

by Gary Ferguson



Early one June morning, a siren's howl filled the crisp Montana air. Wendy Kamm unlocked the door to the visitor center. She stopped and listened.

"Robinson! Fouts! Mitchell!" shouted a voice over a nearby loudspeaker. "Hortsman! Jackson! Kamm! Lightning in the Bitterroot Forest!"

Wendy ran toward the "ready room." There her equipment was waiting. As she zipped up

Millions of acres of forest are burned each year. Without special firefighters like the smokejumpers, even more valuable forest would be lost.

the front of her padded jump suit, she heard the airplane engines outside begin to roar. She had only three minutes to get on board. She quickly strapped on her 35-pound parachute pack. Then she grabbed her helmet and hurried out the door.

When the last person had climbed aboard, the plane started forward. In less than five minutes, the plane and its passengers were headed toward the snow-covered peaks of the Bitterroot Mountains.

This was Wendy Kamm's third season as a U.S. Forest Service smokejumper. Forty-two times before she had been flown to a burning forest. And 42 times before she had felt the excitement as she jumped from the tiny airplane. First there was the sound of the parachute snapping in the wind. Then silence as she floated through the sky like an autumn leaf. In a few minutes she would be doing it all over again.

"There it is!" shouted one of the firefighters beside her. The fire was running up a steep canyon, pushed from tree to tree by the wind. From the air, it looked like someone had touched a match to a giant sparkler.

As the plane flew lower, the smokejumpers made their way past bundles of tools and water. This equipment would be dropped to them

later. Everyone stood in line and watched the spotter. He would tell them when to jump. Finally Wendy's turn came. She stood at the edge of the door. In one motion her feet sprang away from the plane's metal floor and she was gone.

A Lot of Hard Work

Today about 300 smokejumpers work in the forests of Alaska and the western United States. They offer a quick way to get to a fire in areas where there are few roads.

Smokejumpers must be 18. But most beginners are several years older. That's because people need lots of experience in other firefighting jobs before they can get into one of the four smokejumper training schools.

"The first day I had to take a physical training test," Wendy told 3-2-1 CONTACT. "That meant seven pull-ups, 25 push-ups, 45 sit-ups, and a mile and a half run—all in 11 minutes."

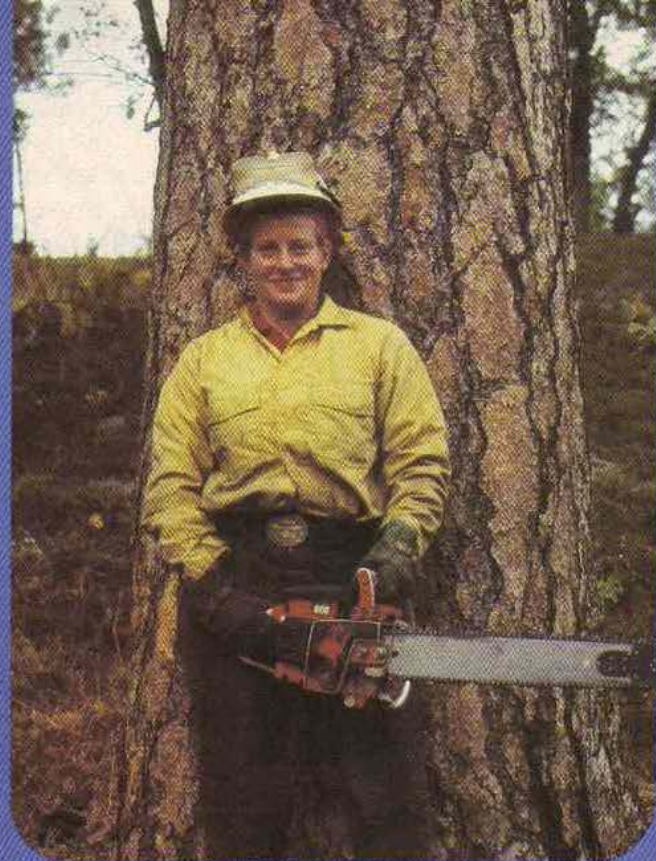
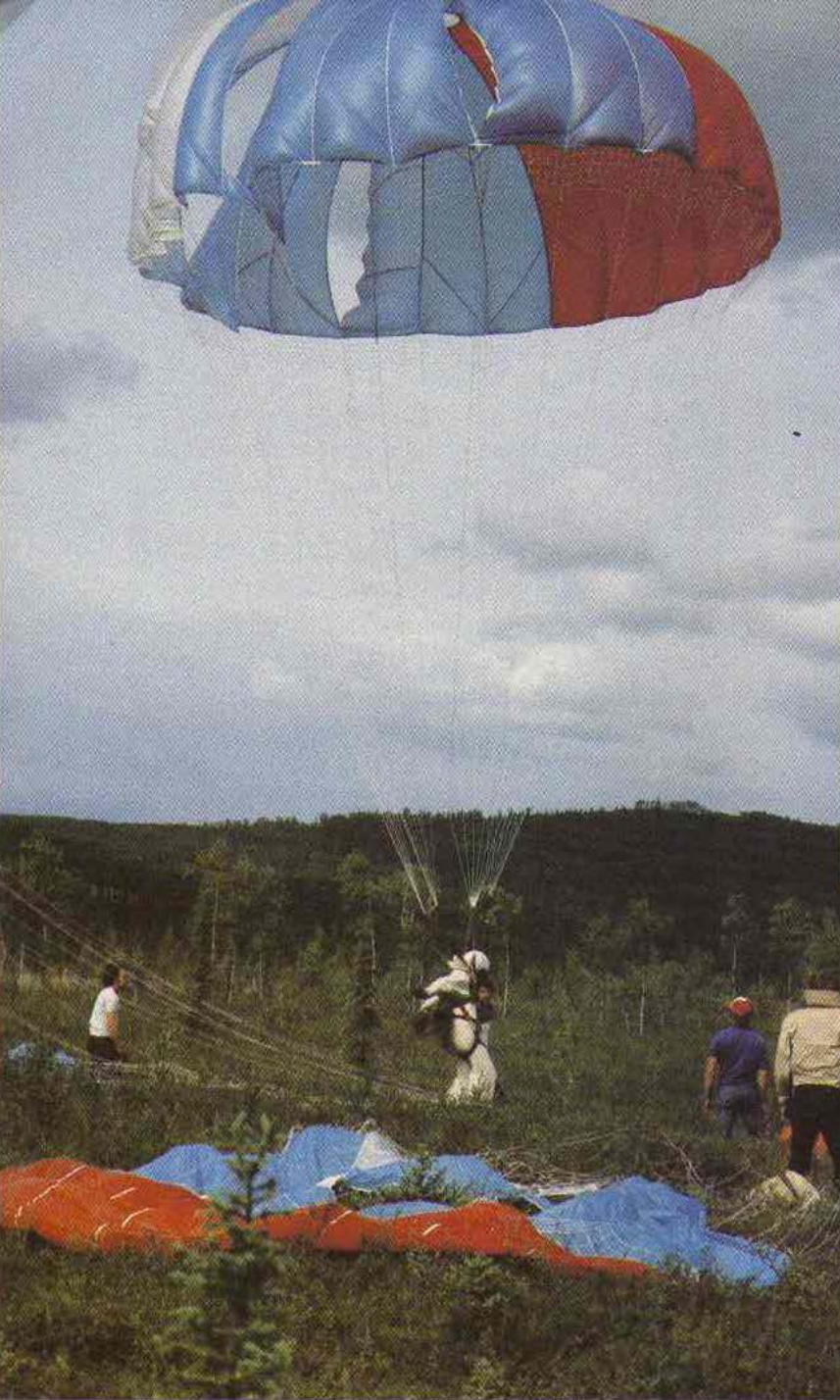
Then Wendy was sent into the forest to cut "fire lines" all night. A fire line is a path that has been chopped clear of the plants and trees that fires need to burn. Wendy used a tool that looked like a combination ax and hoe.

"When we got back the next morning, we ➡

Above Left: Look out below! Firefighters parachute into places that roads don't reach.

Below: These smokejumpers are practicing "let downs." If their parachutes get caught in trees, they will know how to free themselves.





Above: Wendy Kamm has spent three seasons as a smokejumper. She was one of the first women to go through smokejumper training.

Left: One smokejumper lands. Others are already out of their jump suits. They are ready to pack up their gear and walk to the fire.

had 30 minutes to eat," Wendy remembers. "Then we had to put on 100-pound packs and hike three and a half miles up the steepest, rockiest territory you can imagine."

There have only been women smokejumpers for a few years. Wendy was the first to go through the smokejumpers' school in Missoula, Montana.

"You really have to train a lot," Wendy says. "I told myself that I just wasn't going to say 'I can't do it.'"

After the physical test comes the real smokejumper training. You are taught to jump from planes. You practice parachuting by attaching a

cable to yourself and leaping out of a 30-foot tower. You also practice what to do if you land in a tree. You put spurs on and climb up and down a four-story-high telephone pole!

At the end of the second week you're ready for your first jump. "You can't help but wonder what it will be like to leap out of an airplane," recalls smokejumper Todd Onken. "But when it comes time to go, you feel comfortable about it. If anything goes wrong, you know what to do."

"I remember how quiet that first jump was," adds Wendy. "I expected there to be a loud rushing of wind past my helmet. But it was very, very peaceful."

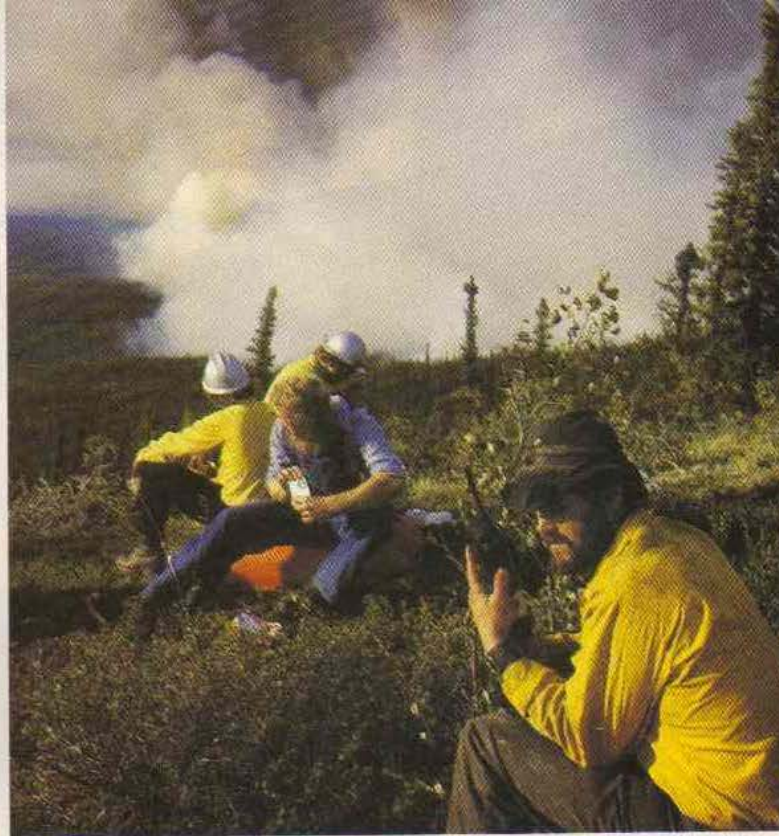
Bearing the Flames

Once on the ground the smokejumpers collect their gear into a pack-sized bundle. Planes drop their tools, water, and food. Then it's off to fight the fire.

Cutting down trees is the way jumpers fight forest fires. They don't spray water on flames like a firefighter in your town would. The trees and plants are the fire's fuel. If the fire lines are in the right places—and if the wind doesn't blow the flames across them—the fire will stop when it reaches the cleared path.

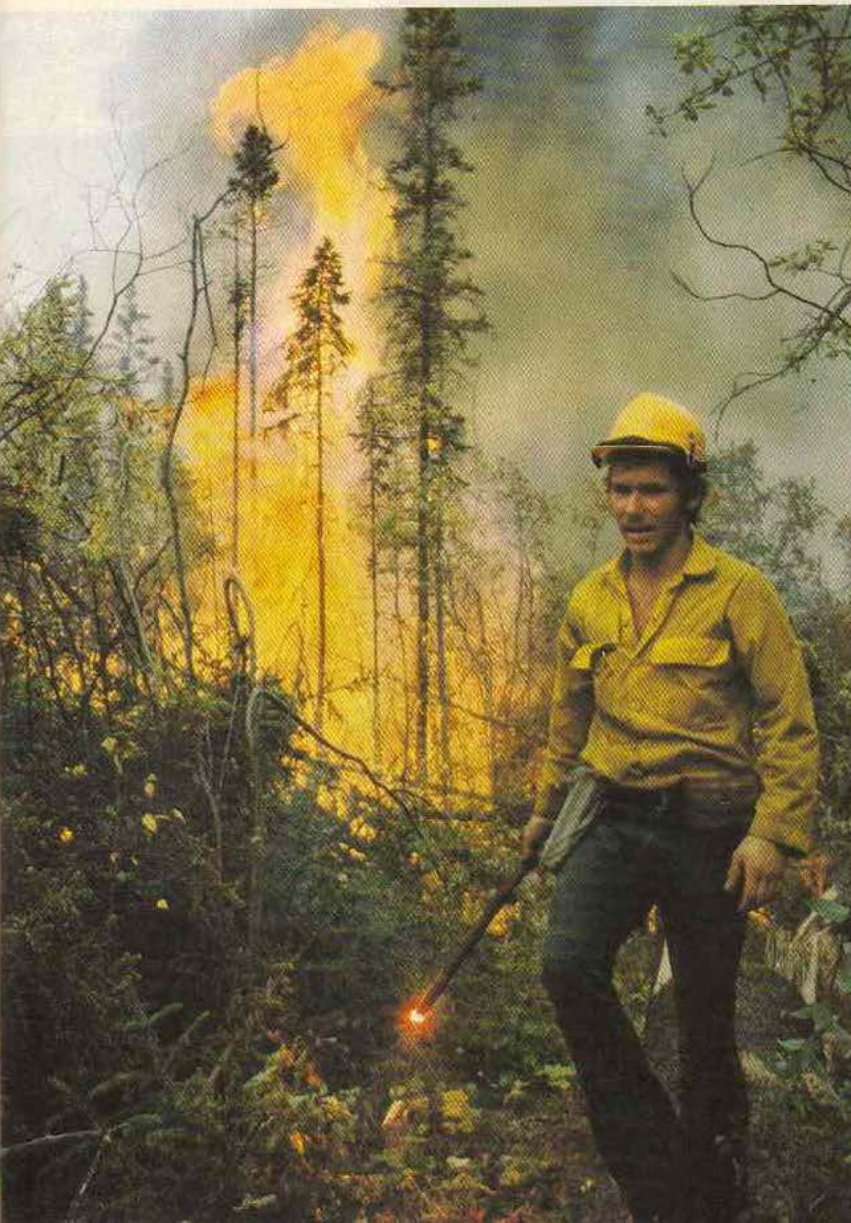
Forest fires travel in the direction the wind blows. So it's very dangerous to be in front of the fire. The flames can quickly surround you. That's why smokejumpers parachute to the sides of the fire or to the back of it.

"You always start at the back of the



Above: Some fires take weeks to put out. These smokejumpers radio for a helicopter to take them back to camp. Others will take their places.

Left: This smokejumper is starting a backfire. It will burn an area in front of the big fire. With no fresh plants to burn, the big fire will be easier to put out.



fire," says Wendy. "Then you work your way forward."

The smokejumpers are usually the first ones at the fire. But other crews may come later to help. Planes sometimes drop water or chemicals to help put out the flames.

"It can be very exciting," says Todd Onken. "The air is filled with the smell of smoke. You can hear fast chopping noises in the forest as everybody races to clear a path before the fire gets there. We all keep an eye out for sudden changes in the wind that could blow the fire in our direction."

Sometimes smokejumpers can be on one fire for a week or more. More food and supplies must be dropped by helicopter.

New Tools for Fighting Fires

Several new inventions now help smokejumpers fight fires better. There was a time when parachutes could not be steered well. So researchers started changing the ➡



Left: Sometimes smokejumpers need help. This plane carries water and chemicals to help put out fires. The mixture is red so the pilot can see where the spray lands.

Below: Every bit of fire must be out before the smokejumpers leave. Here they are chopping through burned areas and spraying water to get out the last burning sparks.

PHOTOS © JOHN C. JONES

shapes of them. Flaps were added that could be opened and closed for steering. Today's parachutes can be steered better even in strong winds.

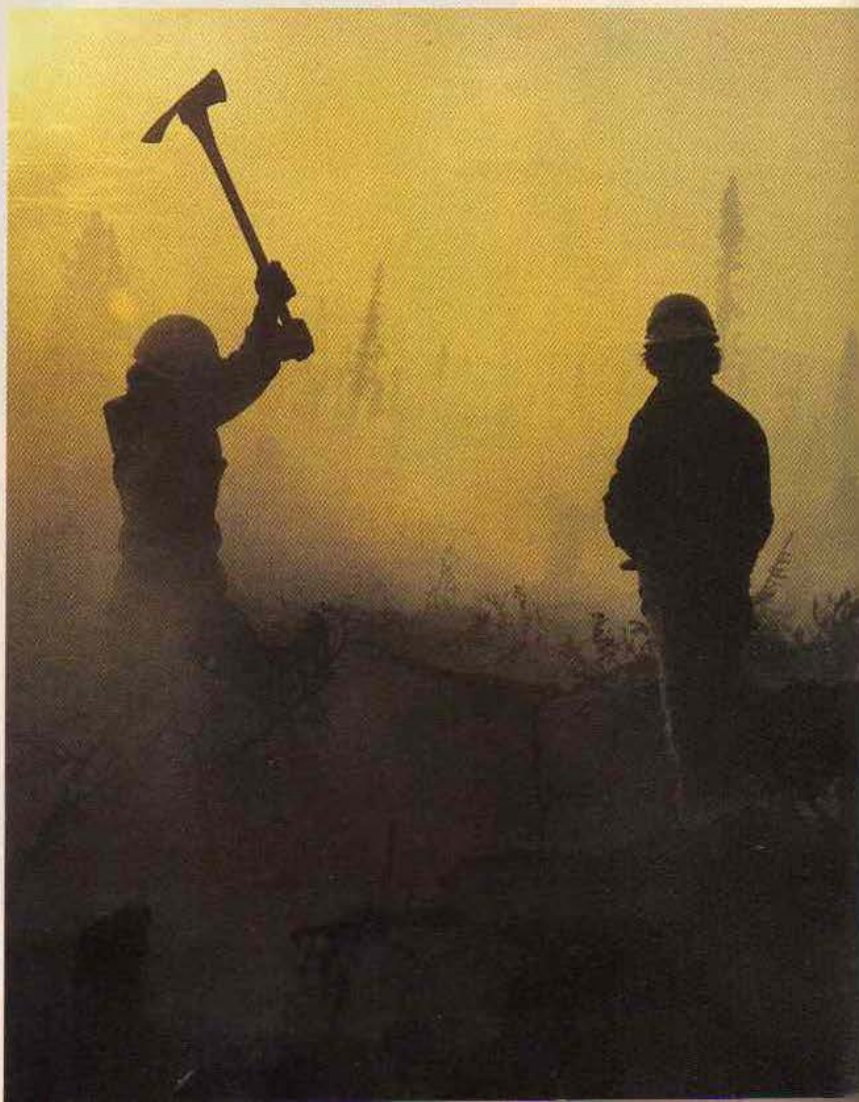
There are other new developments, too. On large fires with lots of smoke, it's hard to see where the flames are from the air. Now special photographs can be taken of the forest with infrared film. The film is sensitive to heat. So pictures show where the flames are hidden beneath the smoke.

Could You Be A Smokejumper?

But even with all this, almost three million acres of national forest are burned each year. That's an area about the size of Connecticut! Smokejumpers are important in the battle against these wildfires.

Most of these firefighters would not want any other job. They like the long, tough hikes. They look forward to the challenge of finding their way out of the wilderness with a map and compass.

"This job is for people who love the outdoors," Wendy says. "You see wild animals everywhere. You see beautiful mountains and canyons where few people have ever been. And, you also work very hard."



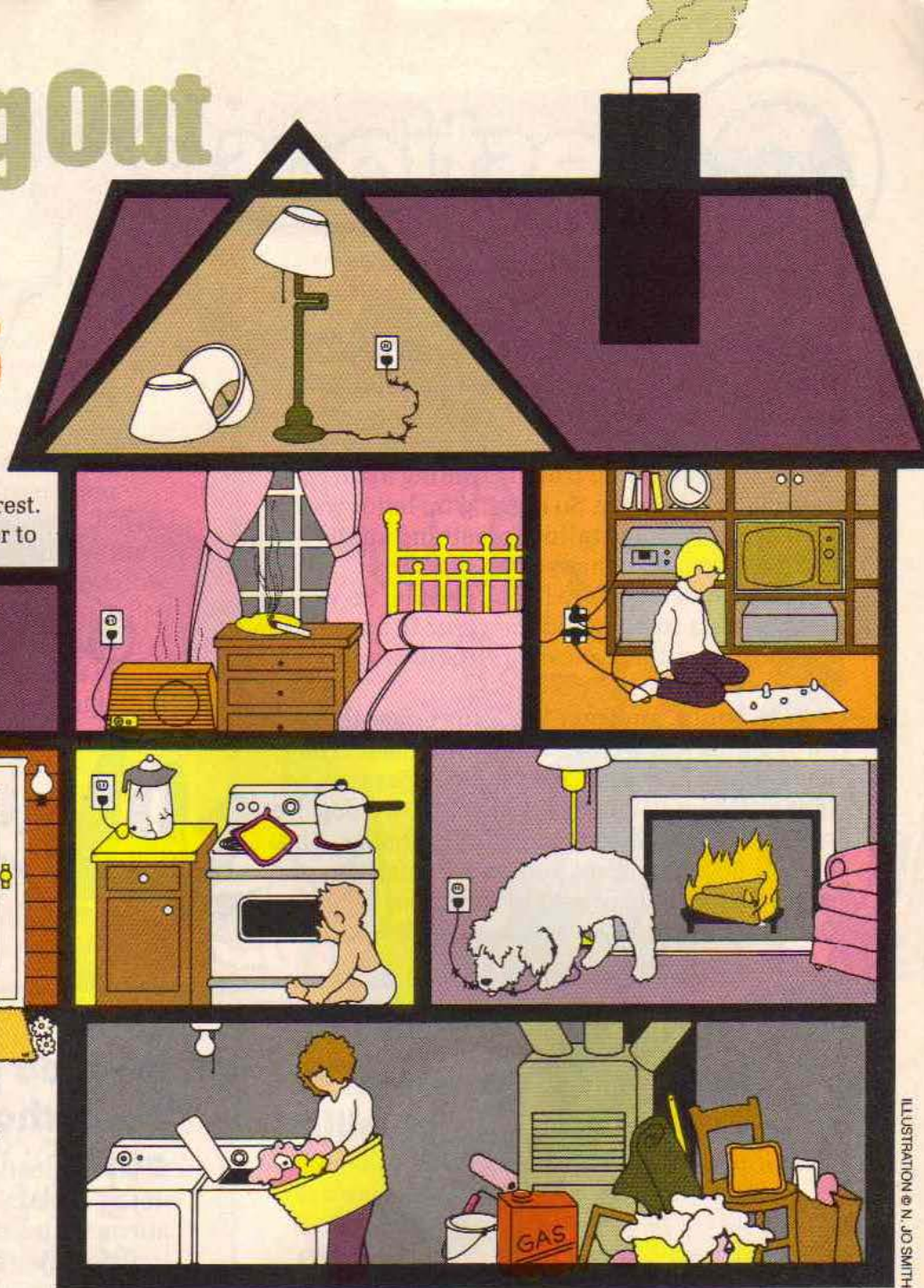
Smoking Out Home Hazards

by Ellen R. Mednick

You just read about fires in the forest. But fires can—and do—happen closer to home. Last year, more than 5,500 people were killed in fires. And some three billion dollars worth of homes and property were destroyed. But you can help prevent fires. After all, October is Fire Prevention Month. So what better time to check out your home to make it safer.

Fire Safety Checklist

- ☐ Clean up trash and old rags.
- ☐ There should be only one plug in each outlet.
- ☐ Fireplaces should always have metal or glass screens.
- ☐ Tell adults to have old wires replaced.
- ☐ Don't use areas near furnaces or heaters to store items.
- ☐ Keep portable heaters away from curtains or furniture.
- ☐ Tell adults to be sure to put out cigarettes.
- ☐ Appliance cords should be rolled up so little kids can't pull on them.
- ☐ Small appliances should be repaired or thrown out when they aren't working.
- ☐ Tell parents to turn pot handles so the pots can't be knocked or pulled off the stove.
- ☐ Tell adults to store gasoline and other liquids that might catch on fire in tight metal containers. Keep them in a cool place.
- ☐ Move little kids away from the stove so they don't get burned.
- ☐ Potholders or other items that might catch on fire should be kept off the stove.



Hazard Hunt

Go through the "Hazard House." Can you figure out what fire hazards lie in each room? Check your answers with our checklist. Ask your parents to see if they can smoke out the dangers in "Hazard House." Then, with your parents, check out your home for hazards. Don't touch anything!

Remember these fire safety tips in your home!

- Place a burn in cool water.
- Place smoke detectors in your home.
- Plan and practice fire drills.

Any Questions?

Why do dogs bury bones?

Scientists think dogs bury bones because of instinct. A long time ago, dogs had to hunt for food. If some was left over, they would bury it. Sometimes dogs had trouble finding food, especially in winter. So digging up leftovers was the easiest way of finding something yummy to eat. That was how many dogs survived.

Today, most dogs are fed by people. So why do dogs still scratch around the yard? In a sense, the message from their ancestors is still around: Bury bones.

Why bones, anyway? Well, the bones that dogs buried long ago were covered with meat. They had protein and were good for a dog's teeth. So today, a bone still means good stuff to a dog. But never give your dog chicken or fish bones. The animal might swallow some very small ones or get bone splinters caught in its throat.

Question sent in by Rachelle Normali, Phoenix, AZ.

Written by Maris Perlow



Why do people have tonsils even though they're taken out?

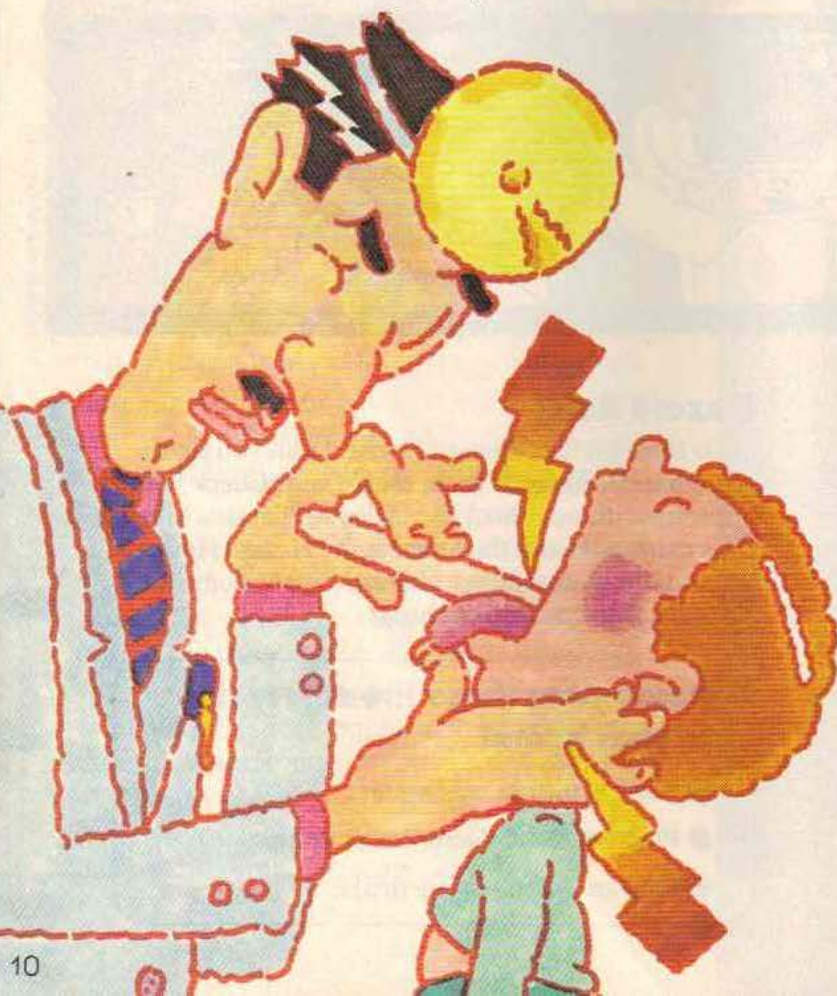
out? Tonsils do get taken out a lot. But they're not as useless as you might think. Your tonsils are on both sides of your throat, just behind your tongue. They are there to filter out bacteria that enter your body through your mouth and nose.

When germs get in, the tonsils work by producing cells that trap and destroy them. But when the tonsils are producing lots of these germ-fighting cells, they often swell up. That's called tonsillitis (ton-sil-LIGHT-is), and it can really hurt.

You can get along fine without tonsils because there are other parts of your body that produce the same germ-fighting cells. That's why it is not a big deal to take swollen tonsils out. But sometimes doctors prefer to give people medicines called *antibiotics*. The medicine fights the tonsil infection and brings down the swelling. And often that means the tonsils don't have to be taken out after all.

Question sent in by Michelle Kennedy, West Babylon, NY.

Written by E. J. Israel



Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 599
Ridgefield, NJ 07657

What are marshmallows made of?

The answer to this question is different today than it was a long time ago. The first marshmallows were treats made from the white roots of plants called mallows. The mallows grew in low, wet fields called marshes. So the plants and the treats made from them were called—that's right—marshmallows.

If you want to know what marshmallows are made of today, just take a look at a marshmallow package for the list of ingredients. Marshmallow plants have nothing to do with these candies any more. Mostly, marshmallows are made from ingredients like corn syrup, sugar, starch, and gelatin.

All of the ingredients are beaten together until they are light and creamy. Then the white, fluffy mixture is put into square or round molds. When the candies are partly dry, they're rolled in powdered sugar. Then they're ready for a good old-fashioned toasting around a campfire.

Question sent in by Melinda Janssen, Franklin, NE.

Written by E. J. Israel



Why are no two snowflakes alike?

First, snowflakes *are* alike in one way. Each one has six sides. But no two snowflakes are ever exactly the same in size or shape.

A snowflake starts way up in the air as a tiny speck of dust so small you can't see it. Floating down to earth, the dust collects water vapor that freezes into ice crystals. These crystals stick to the speck. As the snowflake drifts to earth, it grows larger by picking up more and more water vapor.

But because the trip to earth is different for each flake, each one turns out to be different. Some of them float down when there is little moisture in the air. These snowflakes are light and airy when they reach earth. Others travel through lots of water in the air. They become big fat flakes.

But big or little, each snowflake will be six-sided. That's because the water molecules which make up most of each snowflake all have six sides. So you'll never see a 10-sided snowflake!

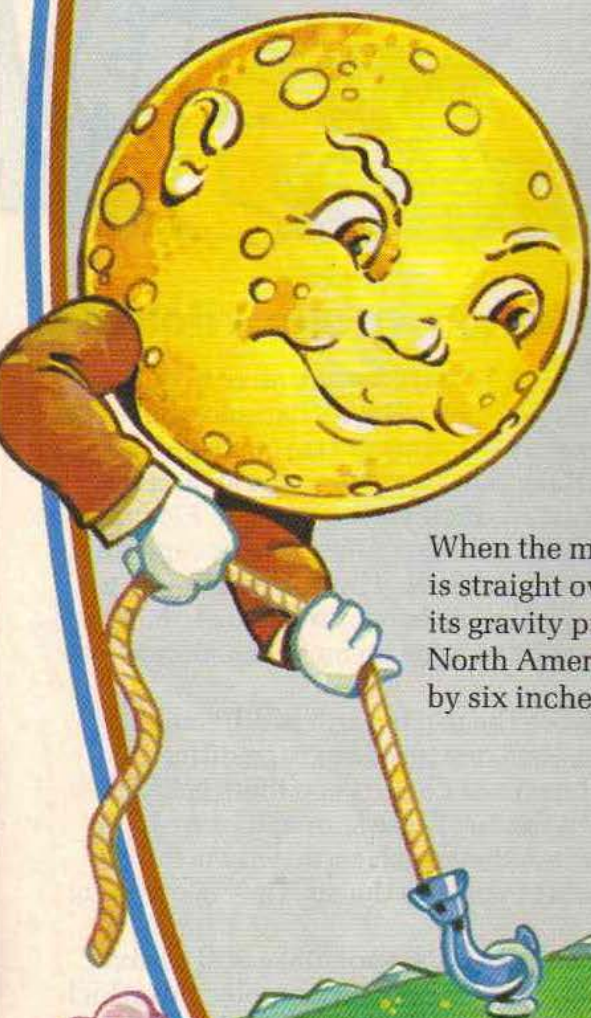
Question sent in by Juhi Thorwart, Johnsonburg, PA.

Written by Maris Perlow

Factoids



Bees in an average hive eat about 500 pounds of honey each year. Humans get the leftovers.



When the moon is straight overhead, its gravity pulls North America upward by six inches.



There are about 5,000 human-made objects floating in space.

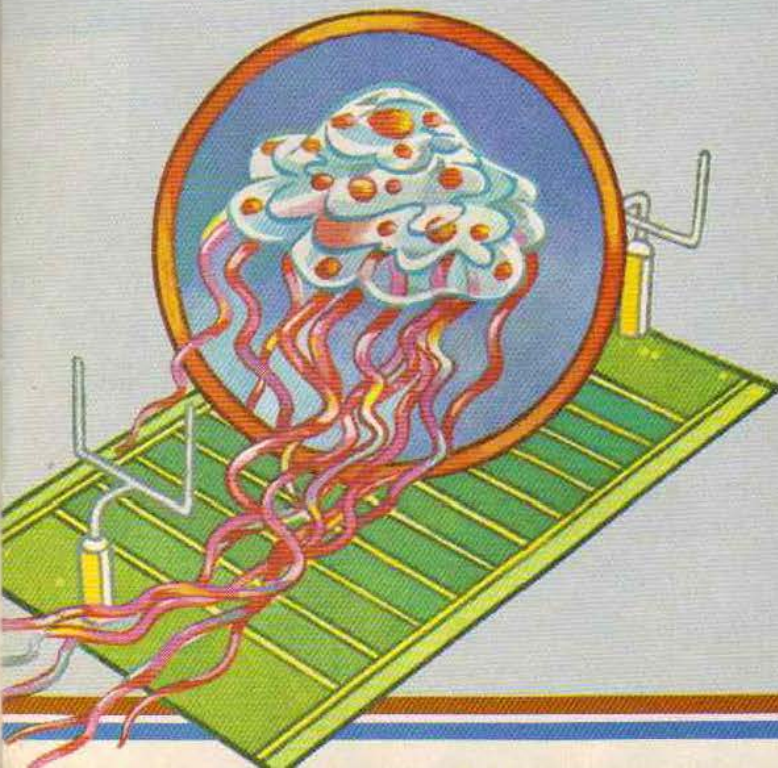


Because the earth's surface shifts all the time, Los Angeles and San Francisco, California, are moving toward each other by one inch a year.

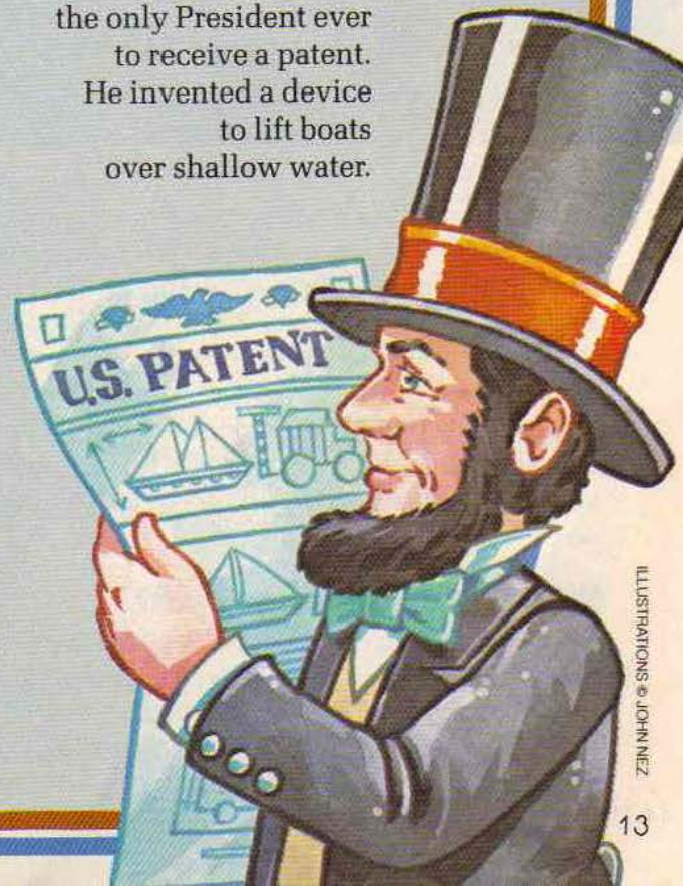


The heaviest pair of elephant tusks on record weighed 440 pounds, 8 ounces.

The world's largest jellyfish is two thirds the length of a football field.

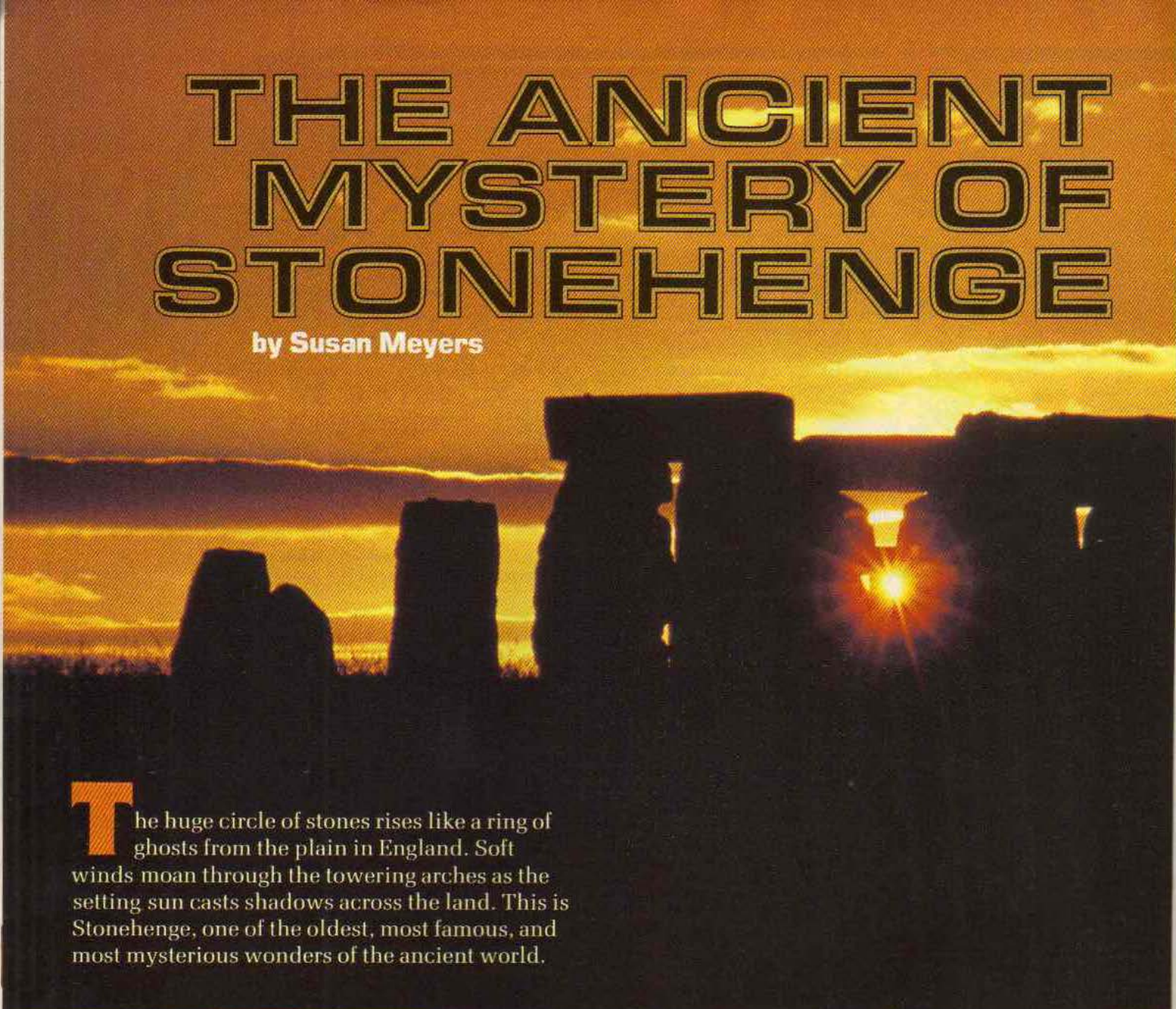


Abraham Lincoln was the only President ever to receive a patent. He invented a device to lift boats over shallow water.



THE ANCIENT MYSTERY OF STONEHENGE

by Susan Meyers



The huge circle of stones rises like a ring of ghosts from the plain in England. Soft winds moan through the towering arches as the setting sun casts shadows across the land. This is Stonehenge, one of the oldest, most famous, and most mysterious wonders of the ancient world.

Close to a million people visit Stonehenge every year. They come from all over the globe. And as the visitors stare at the huge upright stones, they ask the same questions. Who were the people who built this amazing structure so long ago? How did they do it? And why?

Modern scientists are curious about the mysteries of Stonehenge, too. So, using computers and other equipment, archeologists—and others—are trying to come up with the answers.

Why Was Stonehenge Built?

Even today no one knows for sure why Stonehenge was built. But there have been many interesting guesses.

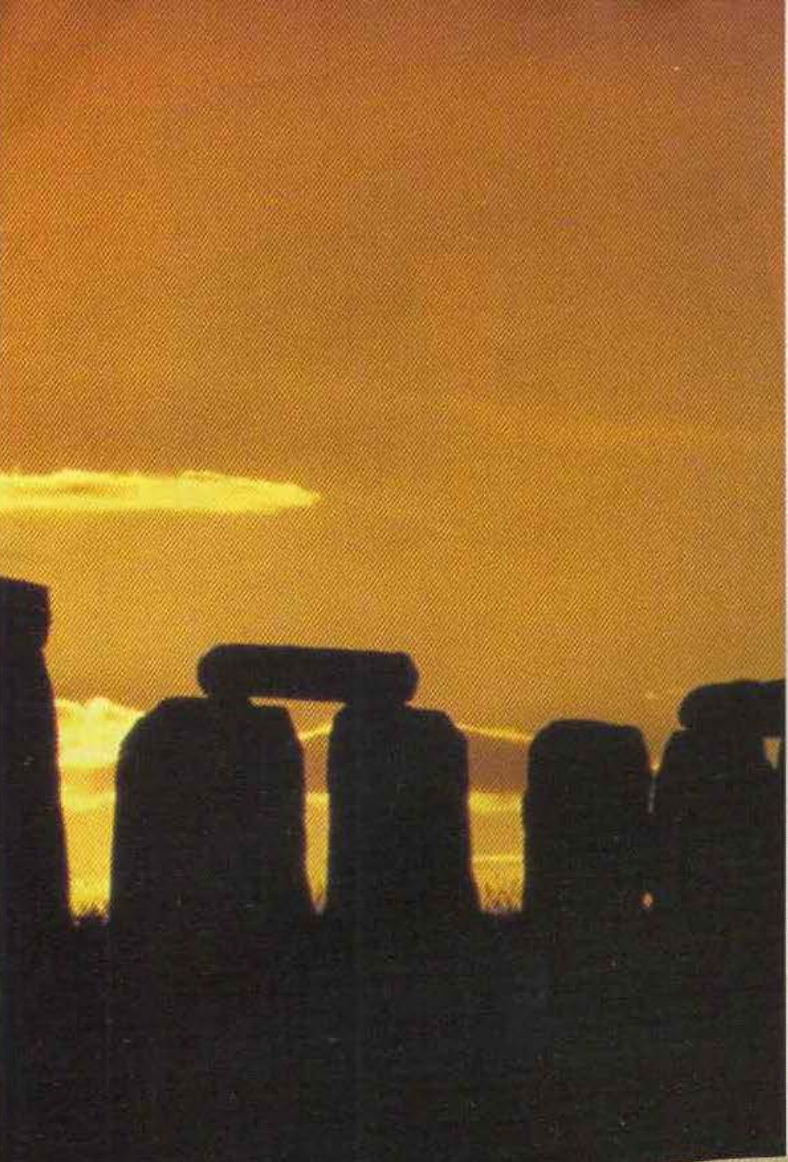
About 800 years ago, some people suggested that Stonehenge had been built by Merlin, the

magician. They said that Merlin had used magic to fly the big stones all the way from Ireland.

Just 100 years ago, the most popular theory was that Stonehenge had been built by the Druids for human sacrifices. The Druids were a religious group who lived some 2,100 years ago. People who believed that the Druids built Stonehenge nicknamed one of the stones the “slaughter stone.” They thought it was the place where people were killed or sacrificed.

This made an exciting story, but thanks to modern technology, scientists have learned that Stonehenge was built nearly 2,000 years before the Druids lived.

To find out just how old the structure is, scientists studied bits of charcoal that were dug up. The charcoal was from wood fires made by the



ancient builders. This test is called *radiocarbon dating*. Scientists use it to figure out the age of wood and bones from long ago.

First, the amount of a material called carbon that was left in the charcoal is measured. That showed the researchers that Stonehenge was built about 3,500 to 4,000 years ago. This finding smashed the Druid theory and the stories about human sacrifices. They had been wild guesses that people had to give up when new discoveries were made.

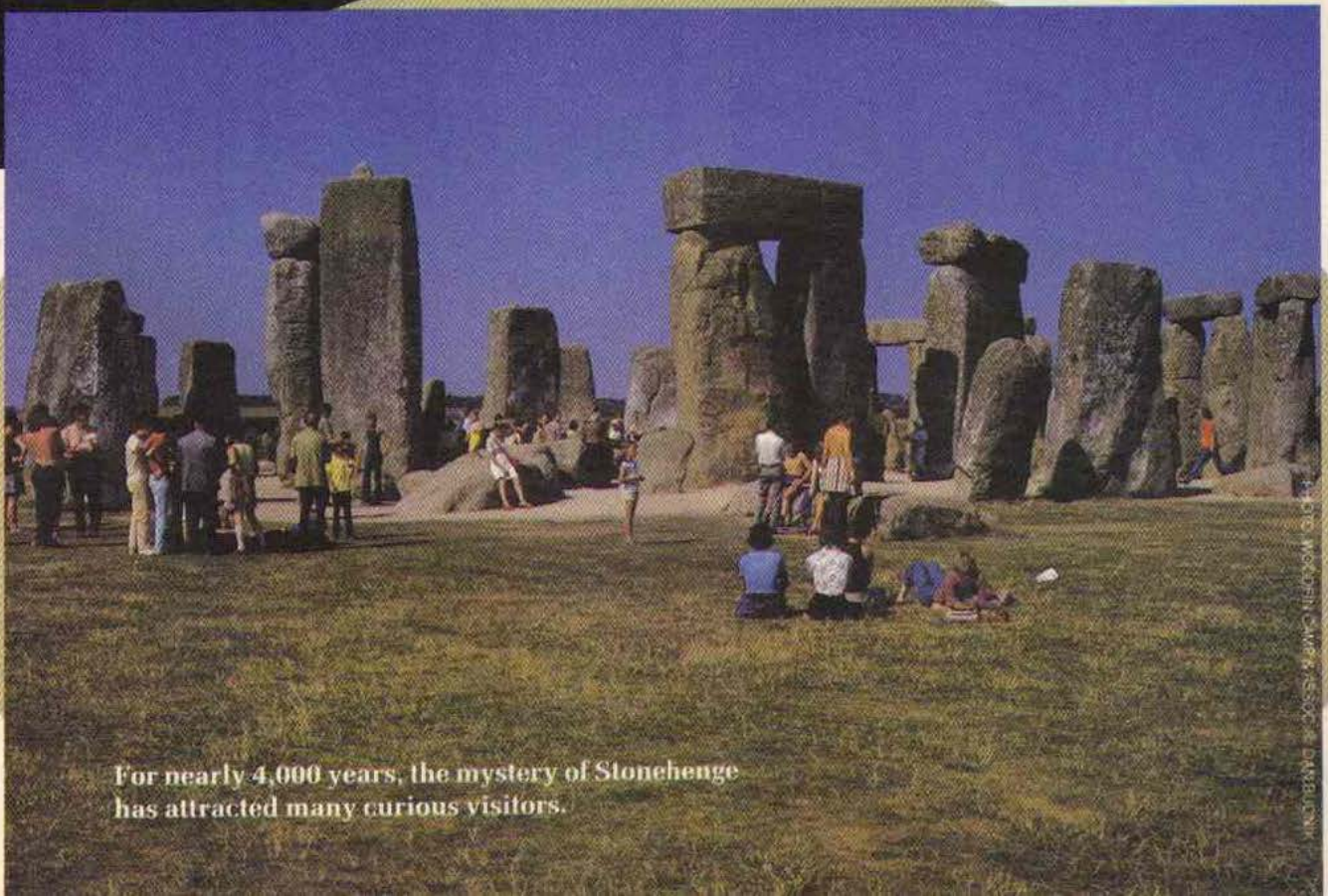
A New Stonehenge Theory

If Stonehenge wasn't built for weird religious practices, then what was its purpose? One modern theory is that it was used for studying the sun, the moon, and the stars. Was it an observatory for ancient astronomers?

To find out, one modern astronomer, Gerald Hawkins, used a computer to study Stonehenge. He studied the 56 holes that border a ditch around Stonehenge. He said if used in a certain way, the holes could predict eclipses.

Hawkins also used the computer for other studies. He matched the position of the giant stones with the positions of the sun and the moon at the time Stonehenge was built. His computer showed that the stones could ➡

PHOTO: THE IMAGE BANK © C. MOLYNEUX



For nearly 4,000 years, the mystery of Stonehenge has attracted many curious visitors.

PHOTO: MICHAEL CAMPBELL/ASSOCIATED PRESS



have been used as a calendar to keep track of the seasons. Even today, on the first day of summer, visitors can see the sun rise directly between two stones at an entrance to the monument.

But not everyone agrees that Stonehenge was used as an observatory. John Evans, for example, is an archeologist who studied the area around the monument. There he found the shells of so many forest snails that he thinks Stonehenge was once surrounded by trees. If the view from the monument were blocked by trees, people couldn't have used it as an observatory.

How Was Stonehenge Built?

What's the most amazing thing about Stonehenge? Some of the huge stones are a special kind of bluestone that is found only in an area

that is 250 miles away. How did people with no wheeled vehicles bring these giant rocks so far?

Some people think that stones were placed on logs which rolled the stones along. Or perhaps the huge rocks were floated part of the way on river rafts. Others suggest that the big stones were moved in the winter when they could be dragged more easily over the snow.

But since no traces of the sleds or giant rollers remain, no one knows for sure. The only thing that's certain is that it must have taken hundreds of workers many years to bring these 50-ton stones to Stonehenge. Once there, they were probably slid into deep holes which had been dug with deer antlers. At last the stones were probably hauled upright by workers pulling on ropes made of vines and animal skins.

This is one artist's idea of how ancient people could have built Stonehenge with simple tools.



ILLUSTRATION © BOB PEPPER

More Mysteries

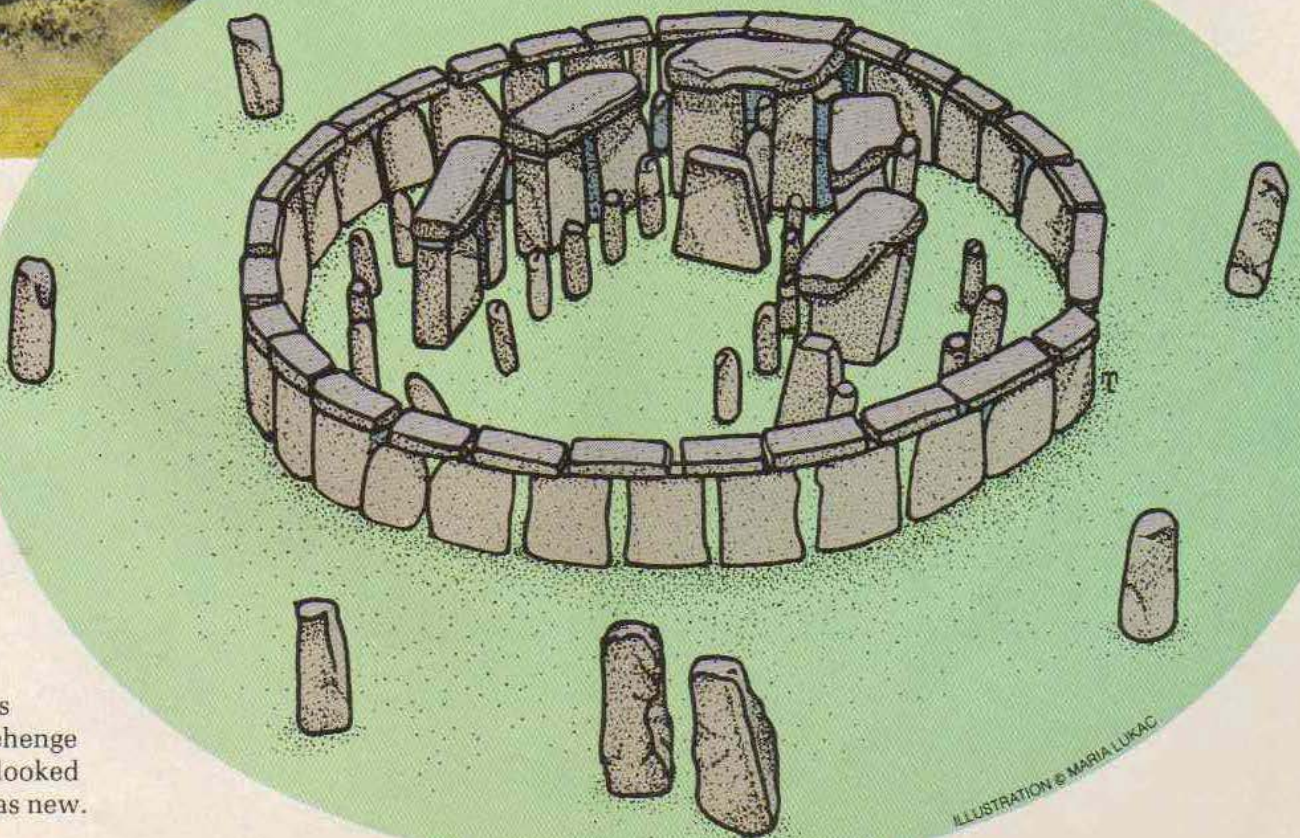
Is the mystery of Stonehenge close to being solved? Not yet. The more facts scientists learn, the more puzzled they become. Archeologists are discovering that the big stones are just one mystery in an area filled with them.

For example, more than 400 burial mounds have been found nearby. Then there's a puzzling pair of banks and ditches, dug at the same time as Stonehenge. They go in a straight line, rather like a race course, just north of the monument. And a few miles away lie the remains of another huge monument in the shape of a circle. This one was made of giant wooden posts. It is called—what else?—Woodhenge.

What can all this mean? Was Stonehenge a great religious center long ago? A capital city? A place of science and learning?

No one knows. So scientists keep gathering new clues, hoping to put all the pieces of the puzzle together. With the help of new science tools that are still being developed, they will find the answer sooner or later.

But until then, Stonehenge remains what it has always been—a fascinating mystery that people are still working to solve.



This shows how Stonehenge may have looked when it was new.

ILLUSTRATION © MARIA LUKAC

Witch's Delight

You've probably heard of a good witch. But how about a delicious witch? Ours is made of lots of good things to eat. How many foods can you find? Answer on page 35.





WHAT'S SO SCARY?



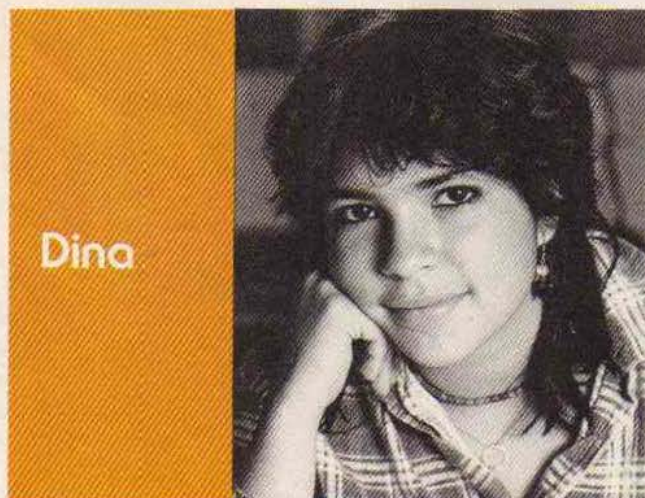
KIDS TALK ABOUT THEIR FEARS

Some people love spiders. Other people are afraid of them. Some people don't like crowded places. Others like to be surrounded by people and noise. Some people are afraid of flying. Others of swimming. One thing is for certain, though. Everyone is afraid of something.

In some cases, people's fears are changing. Often these fears reflect the times. For instance, before there were airplanes, people weren't afraid of flying. But now, fear of flying is shared by many people.

In one recent study, some kids said they worried about cancer, nuclear war, and parents or friends taking drugs. Those weren't fears among kids some 20 years ago.

CONTACT wanted to know what our readers say they fear—and why. So we asked a group of kids to talk to us—and to you. On a recent morning, we met with Dina P. Valladares, 11; Yuhgin Yamaguchi, 9; Eric Adler, 10; Jessica Bondy, 11; Denise Burwell, 10; and Manfredi Giammarco, 10. The kids all live in New York City and go to Public School 59. Here's what they have to say.



Dina

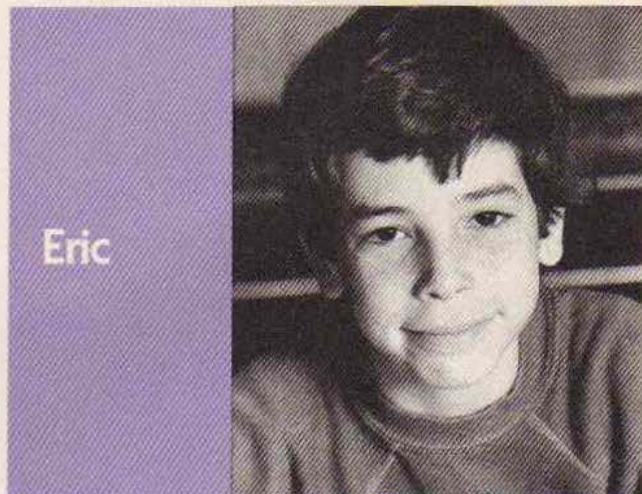
CONTACT: Are there any fears you used to have when you were younger?

Eric: Whenever I'd go to sleep, I'd have the same dream about monsters attacking me.

Jessica: I saw "The Amityville Horror" when I was six. It scared me then, but not any more.

Manfredi: I used to wake up in the middle of the night and think the furniture in my bedroom was a monster.

CONTACT: Does that still happen to you?



Eric

Manfredi (laughing): Sometimes. Fears take a long time to go away.

Dina: My mom used to travel a lot and I used to think she might be killed in a plane crash. That made me scared—and sad.

Yuhgin: I had to get a cast put on my broken leg. I was scared, especially when I saw the round thing that they used to cut off the cast.

Denise: I used to be afraid of going on the subway train. I was afraid I'd get run over.

CONTACT: What are you afraid of now?

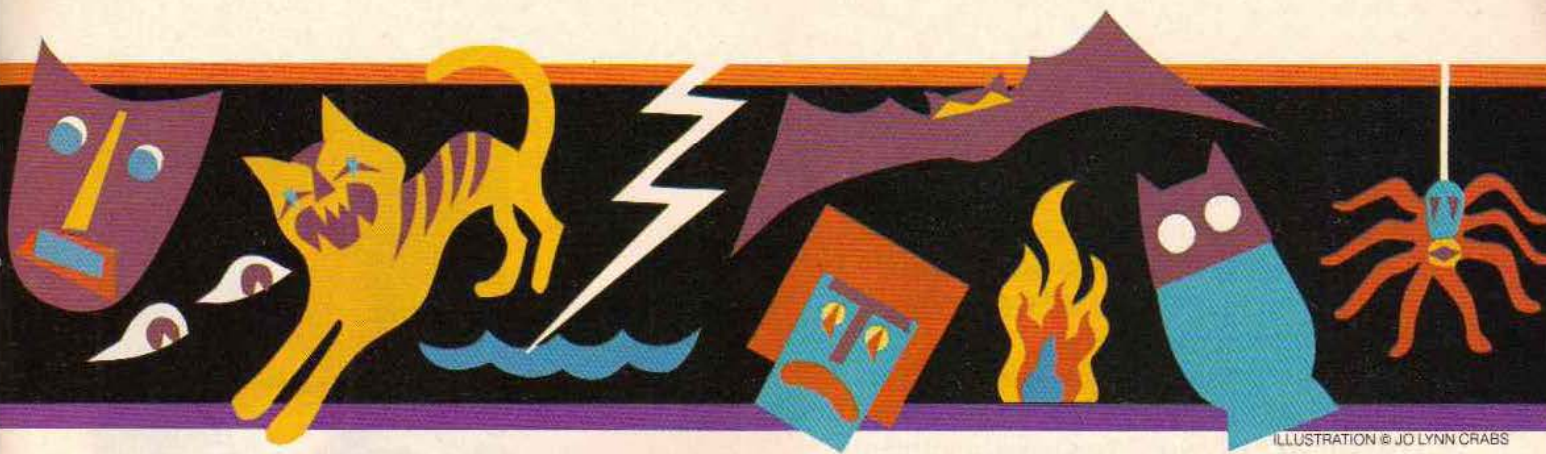
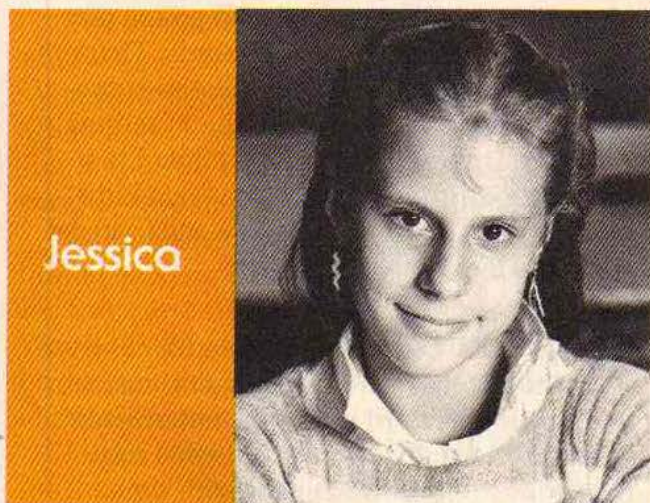


ILLUSTRATION © JO LYNN CRABS

Dina: I'm afraid that my parents will get divorced.

Eric: My parents are already divorced. It takes a while to get used to the idea. It's probably better in the end but at first it was a nightmare.



Manfredi: Sometimes when I'm home alone I hear strange noises. I think someone is trying to break in.

Jessica: Me too. Noises always sound weird when you're alone.

Denise: Snakes scare me.

Manfredi: I always check under my bed for snakes.

Jessica: I love snakes. I hate rats.

Eric: Sometimes when I'm swimming I get scared I'm going to drown.

Yuhgin: Going over a bridge, I think it's going to fall down. Also, when my big brother picks on me. That can be scary!

Jessica: Yeah, sometimes I get scared that older kids are going to yell at me. Sometimes they do. I'm also afraid of being kidnapped.

Eric: Me too.

Manfredi: I worry that something will happen to my mom. Also, I love to play football. I worry about being run over and not being able to play.

CONTACT: Are there any times you enjoy being scared?

Manfredi: I like to get scared a little. It's adventurous.

Denise: People like horror movies because they are fake and safe. You know the monster won't really jump out and grab you.

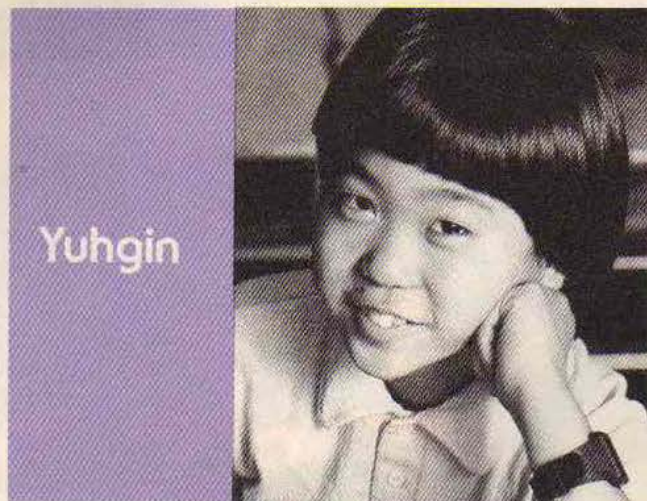
Eric: I don't like horror movies. Blackouts are scary, but they are adventurous too.

CONTACT: What do you do to make yourself feel better if you're afraid or scared?

Yuhgin: When I have nightmares and wake up, I make up my own ending which is better than the one in my dream. It's like a spare dream. And sometimes I sleep with my brother when I'm afraid. He keeps a book of funny stories next to the bed to read.

Manfredi: I just hide under the bed.

Eric: I hide in the closet. ➤



PHOTOS © DONNA DAY

Jessica: I talk to my mom about what scares me. The next day we laugh about it. I also talk to my friends.

Denise: It helps to talk about what you're afraid of.

Eric: If you know you're not the only one afraid of something, it helps a lot. Other people could have the same fears as you.

Jessica: Yes. It helps to know that others are afraid of things too. Some people make fun if you have fears. 'Oh wow, you have nightmares at your age,' they say. That makes me so mad.

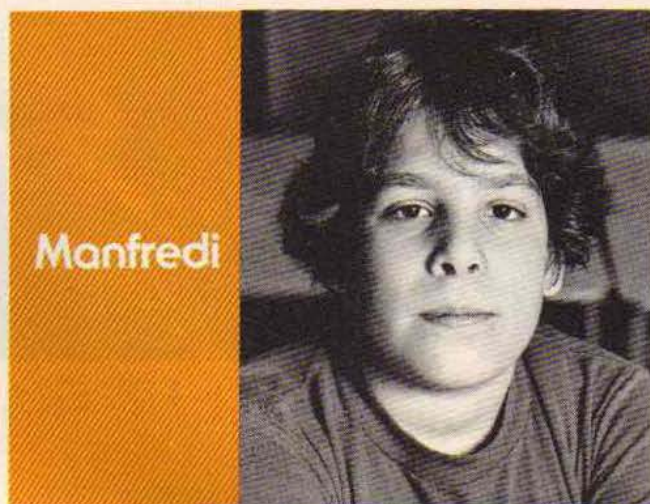
CONTACT: Is there anything else anyone wants to say?

Eric: Sometimes being afraid can help you get over your fears.

Jessica: Sometimes I think it may be good to have fears. It can get your adrenaline going—like in a race when you're nervous so you try to run harder. Then you may win.

Dina: Yes. Sometimes being afraid actually feels good. I don't know why that is.

Eric: Yeah. Everyone is afraid of something. I guess it's not so terrible!

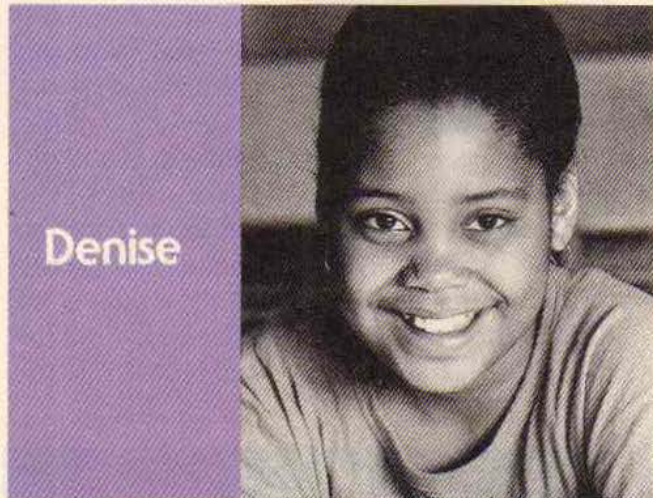


Just Between Us:

Robert Spitalnik is a person who young people talk to about what's on their minds. That's because Dr. Spitalnik is a psychologist—someone who helps people deal with their feelings and worries. Dr. Spitalnik spends a lot of his time offering solutions to problems that kids face. We asked him for tips on how kids can get rid of fears. Here's what he says:

“The kids' comments make a lot of sense. What bothers them—strangers, snakes, rats, being alone, weird noises—is not unusual. What many kids may not realize is that most fears in young people disappear with time.”

“Manfredi says that when he was younger he would wake up in the middle of the night and think the furniture was a monster. I can understand that. At night our imaginations are more alive and more active. And in dim light, objects can look strange.”



“Sometimes people are afraid of something because it’s new to them. New situations can be scary. If we’ve never tried something before, we don’t know what to expect. So we often expect the worst—until we try it. After it’s over, it usually isn’t as bad as we imagined.

“That’s why Yuhgin makes sense when he talks of being afraid of getting the cast cut off his leg. The situation was new to him. If he knew what to expect, he might not have been so afraid.

“The same thing is true of Denise riding the subway. It was a new experience for her when she was younger. So it’s understandable that she was afraid, and would be careful about her first subway ride.

“Often, fears will go away after you’ve done something over and over again. If you develop skills to handle a situation, you will become more confident—and less fearful.

“For instance, Eric is right when he said that at times he’s afraid of drowning when he swims. Who isn’t? It makes sense to be careful about what might be a dangerous or serious situation. But if you’re a skillful swimmer—and you’re careful—you have less reason to be afraid.

“Yuhgin says sometimes he’s afraid that a bridge he’s traveling on will fall down. Imagining the worst situation possible can create fear. We all tend to do that. Yes, it’s possible the bridge could fall down. But what are the chances? One in billions, probably.

“I liked what Yuhgin said about making up his own endings to bad dreams. Daydreaming and using your imagination to make things better is one good way of getting rid of fear.

What Can You Do?

“There are steps you can take to help get rid of fears. If you have awful thoughts—or let your

imagination go wild—it isn’t unusual that you’ll have fears. So keep your thoughts realistic and positive. How?

- “First, think about what you’re afraid of. If you’re afraid of going over bridges, say to yourself, ‘What’s the likelihood it will fall down?’ When you realize the chances are so small, you’ll feel better.

- “Second, don’t always run away from a fear. It will only make the fear worse. If you’re afraid or fearful of a test, let’s say, then be prepared for it. Know what to expect. Study hard. Sometimes fear is a signal to the brain to learn more.

- “If you’re going into a situation that is new to you—and it makes you afraid—go slowly.

- “Try to make yourself feel relaxed or good about the situation. Imagine that you are in an exciting or pleasant place. Sometimes it’s okay to daydream!

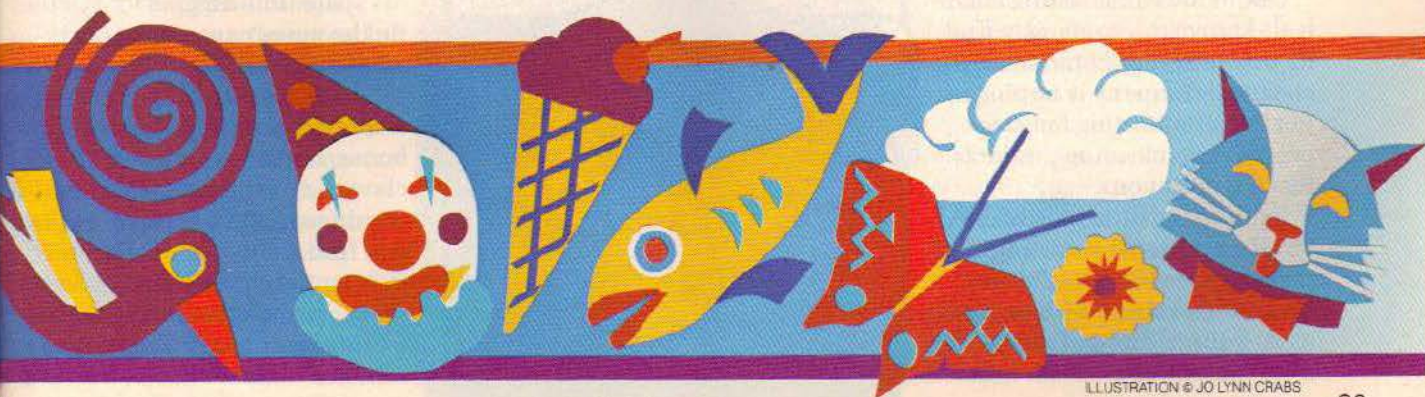
- “Learn more about what you’re afraid of. Collect lots of information about it. Sometimes when you understand what something is all about, you’ll discover that there’s no reason to be fearful.

- “Watch others in the same situation that worries you. How do they handle it? What do they do?

- “As you do better, give yourself a reward. After you’ve done something that had made you nervous, do something you enjoy. Play a video game or listen to your favorite record.

- “Try to relax in advance. If you have to speak in front of the class—and it makes you fearful—rehearse your speech. Know what you’re going to say. Talk to yourself, make yourself feel good. Put yourself at ease.

- “If you are nervous about something, keep yourself busy. Do something you enjoy to take your mind off your fear.



Coming Attractions



Pollution-Eating Bugs Found

Scientists have found two species from a group of bacteria that have an unusual appetite. The bacteria have a taste for a chemical that is used to make antifreeze, detergents, and cosmetics. The chemical causes pollution in lakes and streams.

The bacteria don't need oxygen to live. Scientists are studying the anaerobes because they think some day they may be able to use the little bugs to help clean up pollution.

Yuck!

One of the worst tasting chemicals known to people may find its way into your home soon. A chemical company is hoping to put the bitter-tasting but safe powder into cleaning products that are poisonous.

In this way, little kids won't swallow the terrible-tasting stuff. It even tastes horrible if one drop of it is mixed with as much as 20 million drops of water. Not a very tasty treat!

Drunk Drivers Beware!

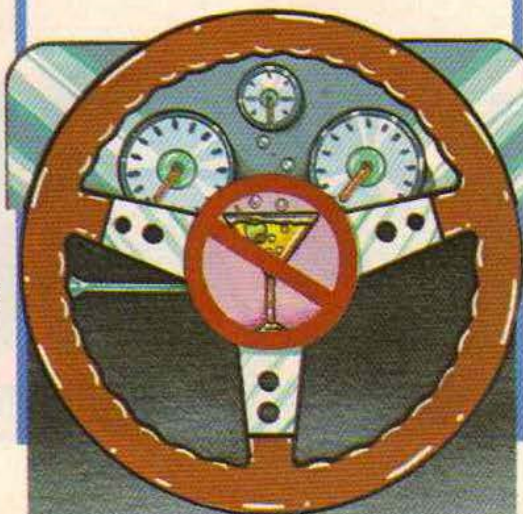
Cars of the future may be noisier than those of today—if a drunk driver is at the wheel. The Department of Transportation is now testing the Drunk Driver Warning System. The system looks like an ordinary fuel indicator on the dashboard. But it tells how drunk a driver is, not how much fuel is left. It works like this:

When the driver gets into the car, he must pass a 20-second steering test. The driver must keep the needle of the gauge in a straight up and down position by making the proper twists on the steering wheel.

If the driver doesn't pass the test, the car's horn will start beeping once every second. The auto's lights will flash on and off. And the car will only go 20 miles per hour. That will be a warning to other drivers to get out of the way.

If the invention works well, the system could become required in all cars driven by people who have been caught for drunk driving.

Story suggested by Teresa Gregory, Monticello, IA.



Huge Fossil Find Discovered

Paleontologists—scientists who study fossils—will be busy for the next few years. They will be studying a huge treasure trove of fossils that were recently uncovered in Florida. The fossils, many of which are 1.9 million years old, could be the most important fossil find in the U.S.

The discoverer of the Apollo Beach, Florida, treasure is Frank Garcia. Mr. Garcia is a construction worker who likes to spend his spare time digging for fossils. But he never expected to find what he found!

"Almost every square inch was covered with camel leg bones, horse jaws, and sloth claws," remembers Mr. Garcia. "I would mark off a six-foot section and find 1,000 pieces of bone."

Scientists have already identified some 60 creatures including many rare animals. They found a miniature camel that looks some-

thing like a llama. Scientists also found a giant feathered bird similar to the California condor. Only it was twice the condor's size!

Mr. Garcia also dug up the remains of a ground sloth as big as an ox. And that's not all. There were mastodons, mammoths, timber wolves, saber toothed tigers, and tapirs.

"The fossils are like time travelers," he says. "They are storytellers from another life. I can stand where I made the discovery just imagining what life was like a million years ago. The reward I get is simply one of discovery. To me, that's what living on earth is all about."

How all these animals could end up in one place is still a mystery. Some scientists think that the animals were killed by floods or other violent weather. Their bodies may have been carried downstream by a river. Then their remains were hardened and preserved in the mud.

Sniffing Out Flu Bugs

Flu shots may be a thing of the past. In the future, you might be able to simply sniff the flu away. Sound too easy? Well, a new nose drop may stop the spread of viruses, such as flu.

One or two drops of the new vaccine squirted into the noses of volunteers protected them from muscle aches, coughing, and fever. But don't hold your breath just yet. It's still being tested. Scientists say you won't be able to buy the new vaccine for another three years. Then we can all breathe easier!

That's Heavenly News

Astronauts are already in training to launch a valuable cargo from the space shuttle. If all goes well, a Space Telescope will be sent into orbit from the shuttle in 1986.

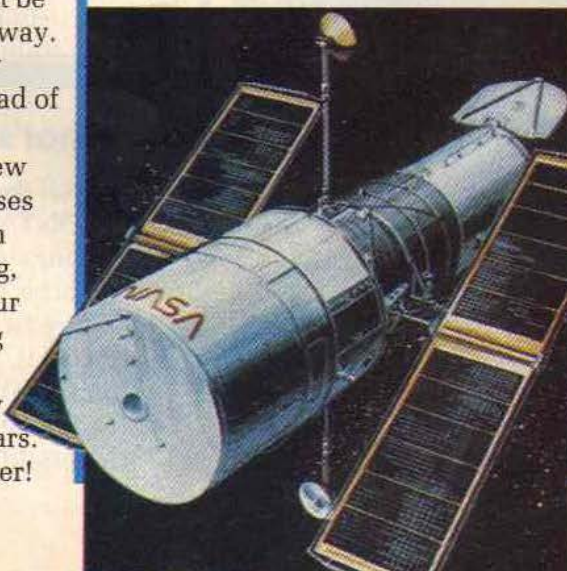
The telescope will go into orbit from a position some 800 miles (480 km) above earth. This will be high enough so the telescope will be able to look more closely at heavenly bodies than any telescope on earth.

Astronomers say the Space Telescope will be able to send back extremely clear images of the planets. The pictures will be clearer because the telescope will be above the atmosphere. The telescope will provide new information on how a star is born and how it changes as it grows older.

The Space Telescope will also give new information on how galaxies are formed.

The telescope is expected to last at least 15 years in space. It will run on solar energy. And in case any part should wear out while in orbit, it is designed for shuttle astronauts to fix it.

ILLUSTRATION COURTESY OF NASA



Freeze-Dried Ice Cream?

Just add water and in 10 minutes you will have an adventure in eating. It's a meal fit for an astronaut. In fact, it's a meal made for astronauts. And it's called Space Food.

Now just plain folks or daring trekkies can get the taste of real astronauts' space dinner: beef stew, golden corn, and chocolate pudding. And if diners still have room for more, they can nibble on freeze-dried ice cream in popular flavors—vanilla, chocolate, and strawberry.

So you may not ride in the space shuttle like an astronaut, but at least you can eat like one.

A Fishy Story

After all the bad news about animals, birds, and fish dying out, there's some good news to come down the river. Ten new types of anchovies have been discovered in the Amazon River in South America.

Anchovies are fish that some people like on pizza. According to the World Wildlife Fund, some 200 to 500 new fish species will be discovered on future Amazon discovery trips. ➡

Coming Attractions

There is a catch for pizza lovers, though. The newly-discovered anchovies live in fresh water. Anchovies found on pizzas are the salt water kind. But don't worry. Those anchovies aren't dying out either!



Reach Out—and Save Someone

What would you think of a telephone that could adjust the temperature in your room, change the radio station, or switch the channels on your TV for you? Too good to be true? Not at a new hotel at Walt Disney World in Florida.

Instead of the 10 or 12 buttons or numbers that are found on a regular phone, the phones of Tomorrowland have 35. And giving a dial tone is the simplest thing they do. Besides making your life more comfortable, the phones can also save your life.

For instance, they can warn you of a fire. Each phone is connected to a smoke detector. So if a fire breaks out, the phone automatically calls hotel workers. Then they can tell you through speakers in the phones how to get out of the fire safely.

Computers: New Olympic Judges

The 1984 Olympics may be over, but planners are already thinking ahead to future games. By 1996, some officials say, computers may bring about a big change in scoring.

During athletic events such as gymnastics or fencing, athletes will be photographed by special cameras. The cameras will change the pictures into electronic images.

Then judges will compare the image of the athlete with a computer image of a perfect somersault or handspring, for example. The athlete would be judged on how well he or she measured up to the "perfect" computer performance.

Officials say this will help make judging easier and fairer. And it may cut down on the arguments that judges have after they've given their scores!

So who knows? If you're an athlete you may be appearing on a computer screen one day!

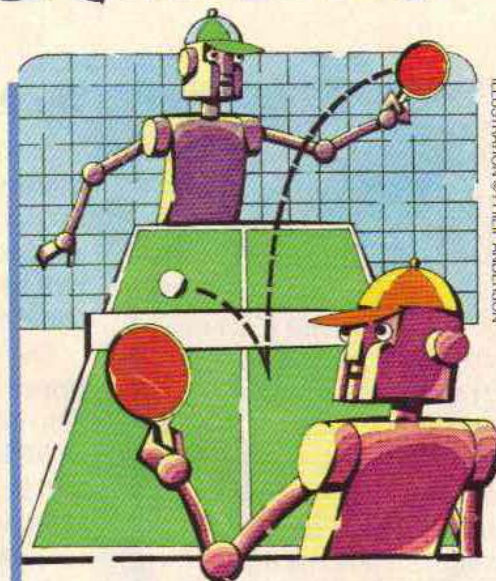
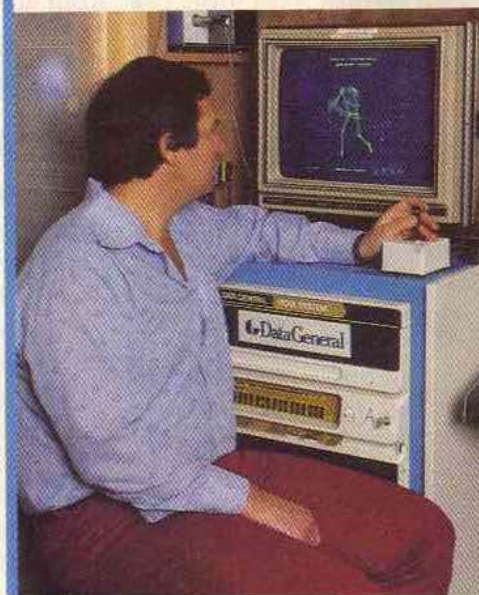


ILLUSTRATION © PHILIP ANDERSON

Ping-Pong Contest

A Ping-Pong contest is going to take place in 1986. Nothing unusual in that—until you hear who will be playing. Robots!

Contest officials say that the Ping-Pong tournament will encourage inventors to come up with low-cost robots that can "see" or use their sensors to keep track of the ball. The robots will compete at a specially designed Ping-Pong table.

"The contest will also encourage humans to experiment with robots that serve people in the home as well as in business," says Joseph Bosworth, one of the humans behind the contest.

So What's New?

You tell us and you'll get a nifty CONTACT T-shirt—if we print your story. Send us any science stories that have to do with the future (which could even be next week!). Send stories to:

Coming Attractions
P.O. Box 599
Ridgefield, NJ 07657

PHOTO © CHRISTOPHER MORROW

Letters

Let's Make Contact

Dear 3-2-1 CONTACT,

How come your magazine is not sold in stores?

Andy Pelz
Manhattan Beach, CA

Dear Andy,

That's a good question. In the early days of 3-2-1 CONTACT, you could buy our magazines in some stores and at newsstands. But we discovered that most of our readers got their issues by subscribing. So we decided that the best way to reach you was not through the newsstands, but by mail. Now we're sent right into your home.

Club News

Dear 3-2-1 CONTACT,

Could we start a 3-2-1 CONTACT Club?

Jan A. Wallace
St. Petersburg, FL

Dear Jan,

It seems you're not the only one who thought clubs might be a good idea. 3-2-1 CONTACT Clubs are starting in different parts of the U.S. They aren't fan clubs, but science clubs led by an adult. Kids in the clubs use the themes of the TV show to explore science found in hidden places in their towns. If you know of an adult who would like to start a club, write to us for helpful hints.

Scientific Know How?

Dear 3-2-1 CONTACT,

Is it true that sometimes science has no answers?

Cathy Gilliard
Mayfield Heights, OH

Dear Cathy,

You're right that sometimes science or scientists don't have the

answer to everything. That's because scientists don't always have enough evidence to solve a problem or prove a theory. Many times, they don't even have the knowledge yet. For example, before scientists knew that the heart was a pump, they could not begin to understand how the heart worked. That's why scientists do lots of research and perform experiments over and over again.

But there will always be areas in science that people will be trying to find answers to. That's what makes science so exciting—it's filled with mysteries waiting to be solved.



Welcome Back

Dear 3-2-1 CONTACT,

When does your show come back on?

Sabrina Lemme
Newcastle, OK

Dear Sabrina,

Your question shows good timing. A new season of "3-2-1 Contact" is starting on October 22. On page 33 you'll find a guide with the schedule. We hope you enjoy the new adventures of the Contact kids.

What's So Funny?

Dear 3-2-1 CONTACT,

Your joke in the November, 1983 EXTRA! "The Wrong Brothers" went over like a lead balloon. Please no more bad jokes!

Robert Rubin
Northbrook, IL

Dear Robert,

A lead balloon?! That's pretty—um—heavy. (Sorry!) We really try our best to make every joke funny. However, not everybody has the same sense of humor. But we love your comments anyway. And we wouldn't mind if you sent in some of your jokes.

Dreaming Up Fun

Dear 3-2-1 CONTACT,

How do you get so many ideas for your contests?

Barry Kline
Annandale, VA

Dear Barry,

Usually we put our heads together to plan a super contest. We talk about what is in the issue and what would make a good contest. One staff member dreamed up a contest in her sleep.

We try to come up with something that will challenge you and make you think. But most of all we want our contests to be ones you'll have fun doing. This month's contest is on page 29.

We Want Mail!

Dear Readers,

We really love hearing from you. The questions, ideas, and complaints we get help us make CONTACT a better magazine. So why not drop us a line? We can't answer every letter, but we do read them all. Send your mail to:

3-2-1 CONTACT: Letters
P.O. Box 599
Ridgefield, NJ 07657

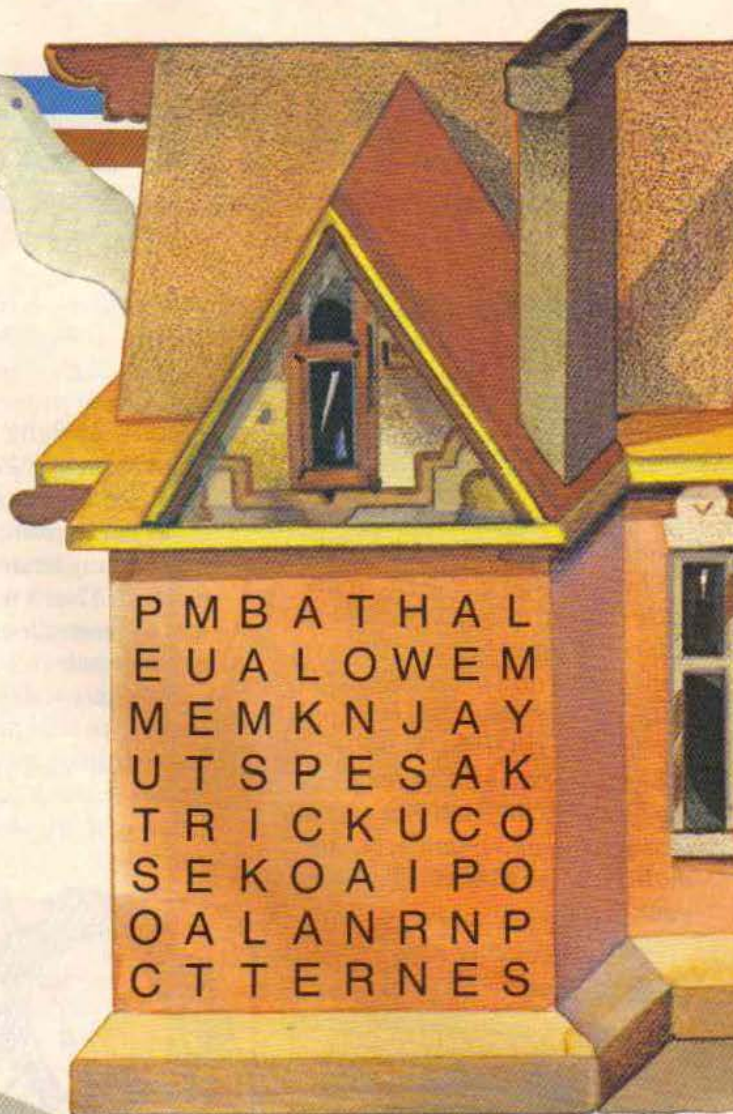
Extra!

October is that spooky time of year when minds turn to mystery and Halloween. Here's a special "EXTRA!"—filled with all kinds of magical happenings for you.

Holiday Word Search

Can you find these words hidden in the search? Words can go up, down, across, and diagonally. The leftover letters spell out something that will light up an October holiday.

Bat	Mask	Spooky
Costume	Pumpkins	Treat
Makeup	Scare	Trick



Raisins At Your Command

Try this trick and amaze your friends as a handful of raisins rise and fall on your command.

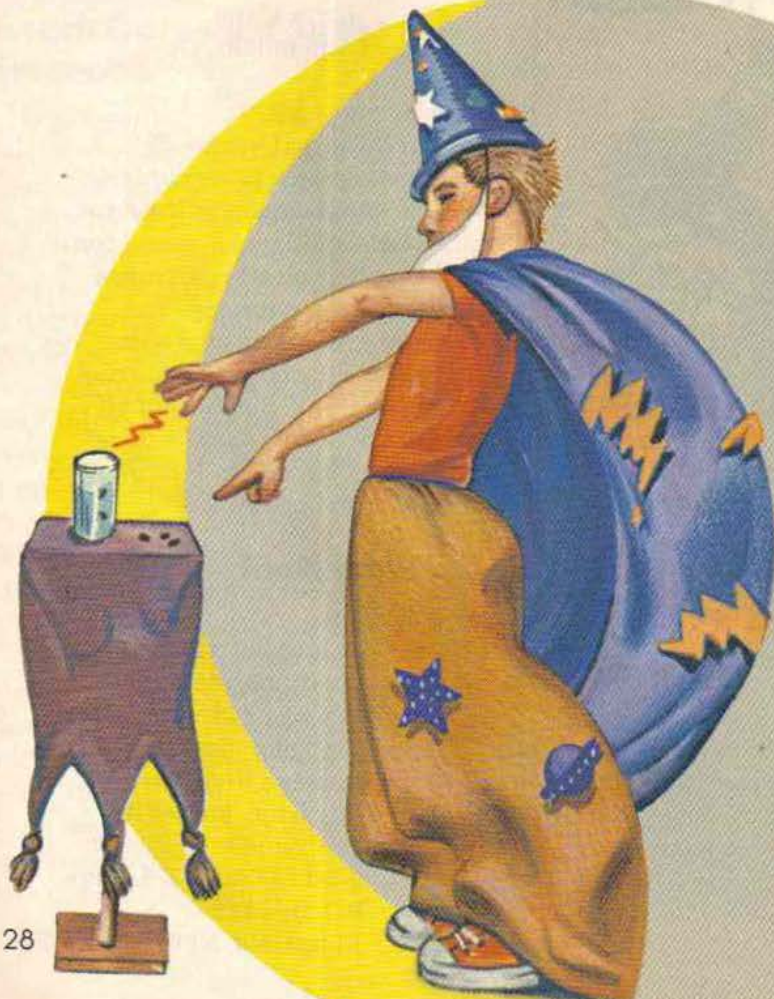
What You Need:

- 6 raisins
- a glass of plain soda or ginger ale

Drop a few raisins into the glass. They quickly sink to the bottom, rise, then sink again. As soon as one of the raisins begins to rise, "order" it to float. When the raisins reach the top, "tell" them to fall.

Why It Works:

The liquid contains bubbles of carbon dioxide gas. The bubbles attach themselves to the rough surface of the raisins. When enough bubbles stick to the raisins, the raisins float to the surface. Once there, the bubbles burst and the raisins fall.



Contest

Here's your chance to create your own creepy Halloween sound effects. In a letter, list all the objects you used—and exactly how you made your effects. (Don't send us the objects!) All entries must use items that are safe and found in the home. We'll try them at our office. The best ones will get a T-shirt. Send entries to:

3-2-1 CONTACT Contest
P.O. Box 599
Ridgefield, NJ 07657



Magic Sounds

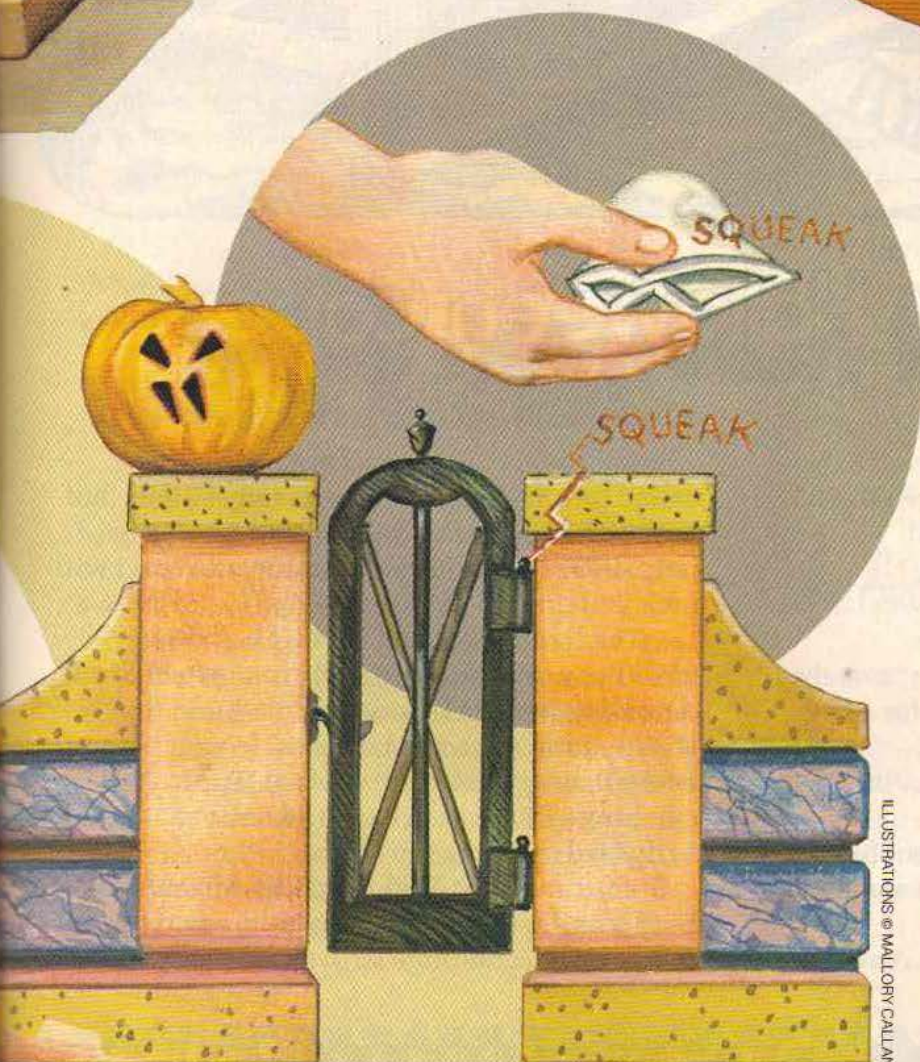
Sounds bring added magic to movies, TV shows, and Halloween parties! Certain sounds can create a picture in a person's mind. When most people hear the sound of a siren, they think of a police car or fire engine. Sounds that are imitated or changed are called "sound effects." You can fool your friends or use the sounds to put on a play. Try making the sound of a rusty gate.

What You Need:

One hot drink paper cup (without wax coating)

What to Do:

The mouth of the cup should be flattened (see diagram). Press the sides of the cup together, rubbing them back and forth slowly with your thumb and forefinger. This should make a squeaking sound. One long squeak will sound like the opening and closing of a creaky gate. Spooky! *Hint:* Hold the cup close to your ear.



The Bloodhound Gang



The Great Halloween Caper

by Michael J. Dayton

Skip was in his dad's workshop when the phone rang. He raced up the stairs and answered.

"Hi, Skip. This is Vikki. Listen, do you have your Halloween costume ready?"

"My costume?" asked Skip. "Sure, it's ready. But what's the rush? Halloween isn't for a few more days."

"The Bloodhound Gang has been invited to a little party tonight."

Skip whistled in surprise. "The Bloodhound Gang? That can only mean a case. Did someone steal a pumpkin?"

Vikki ignored the comment. "Mack Arrol

called today. He didn't give me any details, but he says he has a real problem and needs our help. Be ready in 30 minutes. Ricardo and I will pick you up."

"Well, I don't know. I haven't had dinner yet." But now Skip was really interested. Mack Arrol was famous in town—and around the world—as an expert fisherman. He won nearly every fishing contest he entered. To Mr. Arrol, catching a fish was as easy and natural as the early bird catching the worm.

Some time later, Vikki and Ricardo entered Skip's living room. Ricardo was dressed as Robin Hood, complete with green tights, and a

bow and arrow. Vikki was dressed as a clown.

They were greeted by Darth Vader waving a sword. "Greetings from the dark side of the Force," said Skip, bowing low.

"Hey, great costume, Skip," said Ricardo.

"You haven't seen anything yet," Skip replied. He flicked off the lights and closed the living room curtains. As the room grew dark, Skip's sword began to glow a strange yellow color.

"That's great," marveled Ricardo. "Where did you buy it?"

"Buy it?" Skip sounded slightly insulted. "I made it. I took a clear plastic sword I had and filled it with a phosphorescent liquid."

"That sword looks a lot like those watch faces or key rings I've seen that glow in the dark," Vikki said.

"Exactly," said Skip. "And the stuff that makes those key rings glow—a chemical called phosphor—is what I mixed with water to make this 'light sword.'"

"But what makes it glow in the dark like that?" Ricardo asked.

"Phosphor soaks up energy from the light in this room. It glows when it releases that energy," Skip answered.

Vikki glanced at her watch. "We'd better get going. We'll miss the party if we don't."

"Let me grab a sandwich first," Skip said.

"No time," Vikki answered. "But I'm sure there'll be food at Mr. Arrol's house. You can grab a snack there."

The Gang Meets A Shark

The Bloodhound Gang hopped into Vikki's car and headed toward Mack Arrol's mansion. Mr. Arrol and his wife lived in the biggest, oldest, creakiest place in town. It was the perfect setting for a Halloween party.

The party was in full swing when the Gang arrived. About 100 people were already there. Skip immediately headed for the refreshments and dug into the potato chips and dip.

A few minutes later, the butler came over to Skip. "Excuse me, sir," he said. "That sword might get ruined in this crowd. May I take it from you for safekeeping?"

Skip handed the sword to the butler. "Thanks. Please be careful with it."

Sometime later, a giant shark strolled over to greet Vikki and Ricardo.

"Guess who?" the shark asked.

Vikki and Ricardo didn't have to guess. They knew that only Mack Arrol himself could fish up such a toothy costume. Mr. Arrol took off the head of his costume.

"Say, Mr. Arrol, you look a little green around the gills," Ricardo said.

"And I have good reason," he replied. "Someone at this party is trying to steal my prized fishing lure."

"A fishing lure? Is this the big case you had for us?" Vikki asked.

Mr. Arrol noticed the disappointment in her voice. "You see, I recently made my own fishing lure," he explained. "It's absolutely fantastic. Why, the fish jump right into the boat to get a bite out of it."

"Once I patent my new lure, it will bring me a fortune. And next week I'm sure to win that \$10,000 prize in the fishing contest with it." He glanced around the room suspiciously. "That is, if someone doesn't steal it from me first."

"Anyone who reads the sports magazines has probably read about its value," Mr. Arrol continued. "Well this morning, after the hired help for the party arrived, I noticed that someone had gone through one of my tackle boxes. Luckily, the lure wasn't in there."

"Where do you keep it?" Vikki asked.

"In the last place a thief would look—the most obvious place," he said with pride. "It's hanging high on the wall in my study—attached to the end of a fishing rod."

Just then, one of Mr. Arrol's servants rushed up to them. It was the same man who took Skip's sword.

A Fishy Story

"Mr. Arrol, come quickly! There's been some trouble in your study."

"Oh no!" groaned Mr. Arrol. "We may be too late." He took off at a fast clip.

Vikki and Ricardo followed him. As they passed the refreshments, they snagged Skip. He was still anchored firmly to the chips and dip. Vikki quickly filled him in on their latest case.

Mr. Arrol's study was near the kitchen. The light was already on when the Gang entered. ➡

"I wonder why he calls this room a study," whispered Skip. "Mr. Arrol, you've got everything in here but a rowboat," Skip said aloud.

"Yes, my wife made me take that out," he replied.

Skip was right. The room did not look like a study at all. There was not a single book in sight. The room looked more like a shrine to the sport of fishing. Several of Mr. Arrol's fishing victims were stuffed and mounted on the walls. Tackle boxes, seat cushions, and other gear littered the floor. Three rods were hung high on the wall. A fourth lay on the floor near an overturned chair.

Mr. Arrol picked up the rod that was on the floor. "My lure was on this line," he said, pointing to the broken string. "But how did the thief get it off that top wall hook? I used a ladder to put it up there."

Ricardo picked up the overturned chair. "The thief must have stood on this." Then Ricardo gasped when he saw what had been lying underneath the chair.

"Skip, isn't this your sword?" he asked picking it up. The sword was cracked in half. All the phosphorescent fluid had drained from it.

"That's mine all right," Skip admitted. "The butler took it off my hands when I was eating."

The butler started to sweat. "I didn't steal the lure," he said to Vikki. "I just put the sword in here and left the room. There was no one around at the time. Perhaps I should have locked the door."

"How long have you been working for Mr. Arrol?" Vikki asked the butler.

"Two years," he replied.

"And what did you do before that?"

The butler stammered. His face grew red. "I was a fisherman. But I couldn't make a living from it."

Mr. Arrol interrupted him. "He also designed fishing rods. But that didn't work out either. But I believe him. He told me all this two years ago. And he has been helpful and honest since I've known him."

"The thief must have come in here again looking for the lure," Ricardo said, "when he or she spotted it hanging from the high hook on the wall. This chair alone wasn't enough to reach it. The thief probably spotted the sword, and using both the sword and the chair, managed to reach the rod."

"But it looks like the thief fell from the chair and broke my sword," Skip said.

The Trap Is Set

Vikki smiled. "And that means that the thief probably spilled some of that liquid on his or her clothing. So the thief will glow in the dark. It looks like the crook might have swum into a net."

Vikki turned to Mr. Arrol. "Do you think you could turn off the lights for a moment at the party?"

"You bet I can," Mr. Arrol said.

They returned to the party. The Gang positioned themselves around the room. When they were ready, Mr. Arrol turned off the lights.

Several people screamed in the dark. And the Gang immediately spotted their target. One person stood alone in a corner. Glowing yellow spots and stains spattered her clothing.

Vikki yelled "lights" as Skip and Ricardo grabbed the suspect. When the lights came on, Skip and Ricardo had one of the hired cooks by the arm. Mr. Arrol hurried over.

"We'll take that fishing lure now, if you don't mind," Ricardo said firmly.

The cook glared at them for a moment. Then she reached in her pocket and returned the lure.

"How did you know it was me?" she asked.

"That's easy," Skip said. "Anyone who ate your potato chip dip would know you were a serious fisherman."

Vikki and Ricardo both stared at Skip.

"Anchovies," Skip said. "The dip had way too many anchovies in it."

COMING NEXT MONTH

The Case of The Missing Panther

3·2·1·CONTACT

TV Highlights

Watch out "Diff'rent Strokes". Move over "Family Ties". On October 22, the cast of "3-2-1 Contact" will return for a new season. Join Miguel, Robin, Kathy, and Paco as they travel all over the U.S. in search of science and adventure. And join the Bloodhound Gang as they solve some amazing mysteries.

To let you know what's in store, you can use this day-by-day viewing guide. Just check your local newspaper to find out what time "3-2-1 Contact" is on in your area.

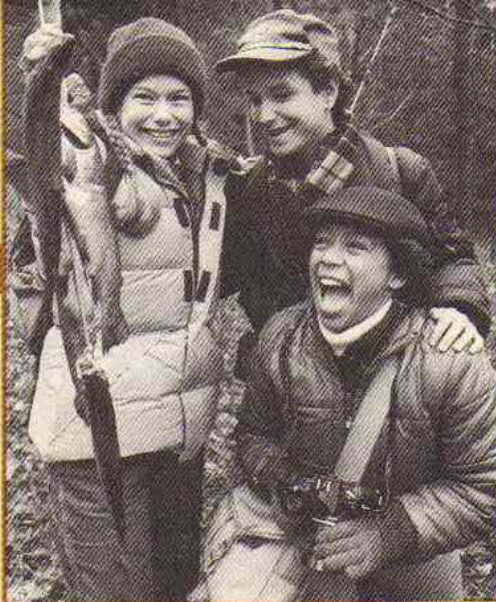


PHOTO: CTW © GARY MILLER

SPACE WEEK

- MON. OCT. 22 WEIGHTLESSNESS**
Toys in space? That's right. Miguel and Robin visit NASA to find out how Slinkies and yo-yos would work in space. And Paco begins a week at Space Camp, learning what it's like to be an astronaut.
- TUES. OCT. 23 GETTING THERE**
How do you get into space? Today you'll find out how rockets work. You'll join the cast as they go to a rocket meet right here on earth. And Paco goes from being weightless to learning how to survive in water.
- WED. OCT. 24 LIVING IN SPACE**
How do you use a toilet in space? How do you fix a space meal? Miguel and Robin talk to astronaut Mary Cleave who is helping to solve the everyday questions of living in space. Meanwhile, Paco gets a chance to take a walk in an amazing place—"Space".
- THURS. OCT. 25 WORKING IN SPACE**
Miguel has so much fun at NASA that he decides to become an astronaut—and learns it's not so easy. You'll get some tips about life in the future as astronaut Sally Ride talks about working in space.
- FRI. OCT. 26 SEARCH FOR LIFE**
Is there life in space? Meet a team of scientists who use one of the world's largest radio antennas to search for extraterrestrial life. Meanwhile, Paco imagines what he would look like if he lived on another planet.

MEASUREMENT WEEK

- MON. OCT. 29 WHAT'S YOUR LINE?**
What's inside a baseball? Paco unravels the mystery. Meanwhile, George Washington's head on Mt. Rushmore has a crack in it. How do experts measure it? Very carefully!

TUES. OCT. 30 NOW THAT'S BIG!

Check out a strange-looking vehicle with tires that are 5½ feet high. Kathy helps scientists measure the flooding of the Great Salt Lake in Utah. Did you ever wonder how people paint those huge billboard signs you see? It's a real science.

WED. OCT. 31 DON'T BE DENSE

Looking for a way to make some money? Kathy pans for gold and finds that density makes the difference. Miguel goes underwater in a submarine.

THURS. NOV. 1 HOW MANY? HOW MUCH?

Watch some birds make pigs of themselves. The kids take a poll on hiccups. They want to know how people get rid of them. Meet the googol—is it a number, an animal, or a visitor from another galaxy?

FRI. NOV. 2 HOW FAST?

What's faster? An ostrich on a treadmill or Kathy in free-fall at a Texas amusement park?

EARTH WEEK

MON. NOV. 5 LANDFORMS

Rocks have secrets to share as Kathy uses them to go far back in time. Meanwhile, Robin gets a hot assignment: Getting a close up look at an erupting volcano!

TUES. NOV. 6 MAPPING AND NAVIGATION

The cast joins in on a hot new sport that involves trying to find your way out of the woods. And if you think there is nothing left on earth to explore, think again. Kathy goes to Oregon where she introduces you to some people who are still mapping North America.

WED. NOV. 7 WEATHER AND CLIMATE

There is one small area of the U.S. where you can find many climates in the world. Robin will clue you in.

THURS. NOV. 8 PLANTS AND ANIMALS

Miguel explores a bat cave in Puerto Rico. Robin helps scientists capture, tag, study, and return to the sea endangered turtles. You'll find out how and why animals depend on their surroundings to live.

FRI. NOV. 9 HOW HUMANS AFFECT THE ENVIRONMENT

Meet some people who make models of dams, bridges, and harbors. Experts use the models to help study how tides, floods, and droughts will affect land and people. Also, visit Holland. Meet a Dutch kid and learn how the country is taking land from the sea.

ELECTRICITY WEEK

MON. NOV. 12 CHARGE!

Paco has some pretty exciting tricks up his sleeve. Find out what they are...and how you can do them. Meanwhile, Kathy finds out about nature's own power source: lightning.

TUES. NOV. 13 MAGNETS

Miguel, Kathy, and Robin visit a junkyard where they come across a magnet that can lift a car. Visit a doctor who uses a magnet to detect what's inside your body.

WED. NOV. 14 WHAT MAKES MACHINES RUN

Miguel takes a trip to the desert and comes upon 1,818 mirrors which make up a solar power plant. Kathy gets to visit a farm that runs on electricity from cow manure. Robin visits a power plant that runs on fossil fuel.

THURS. NOV. 15 CURRENT EVENTS

Paco visits a model train club. Kathy finds out what a "lineperson" does to keep electricity flowing to your house.

FRI. NOV. 16 ELECTRIC ANIMALS

Crickets give off electric energy. So do people. You'll find out the hows and whys. Plus you'll meet a boy who has an electric arm.

HOLIDAY FUN

**Gifts that keep
on giving for the
entire year...**

**from
Children's
Television
Workshop**



Sesame Street Magazine—Big Bird and his delightful friends bring dozens of playful surprises, ten terrific times a year. (It's the entertaining education that Sesame Street does best!) Puzzles, cut-outs, games, A-B-C's, 1-2-3's, ... there's all the magic of the TV super-series in every colorful issue.

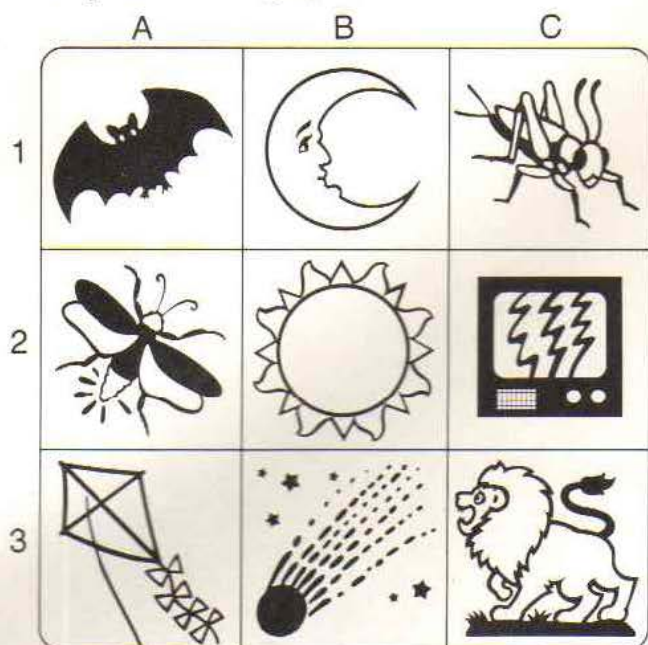
3-2-1 Contact—Science is fun. And you can make it a year-long learning adventure for your favorite 8 to 12 year-olds. 3-2-1 Contact will bring ten big issues packed with puzzles, projects, experiments, questions and answers about the world around us. It's an involving, fun way to learn!

The Electric Company Magazine—as creatively entertaining as the TV show kids love. It's amusing, playful, absorbing, and educational for beginning and young readers ages 6 to 10. Enjoy ten colorful issues filled with puzzles, games, cut-outs, stories, jokes... and sunny smiles.

Enter Magazine. The fun way for your child to learn computer skills, understand computer technology, and keep up on computer games and news. A one year subscription (10 issues) brings programs for all home computers, quizzes, puzzles, and features that involve your 10 to 16 year-old and encourage him or her to become a competent computerite. And you don't need a computer in your home to make it work!

Did It!

Triple Cross (page 2)



Row 1: Things that come out at night.

Row 2: Things that give off light.

Row 3: Things that have tails.

Column A: Things that fly.

Column B: Things that are out in space.

Column C: Things that make noise.

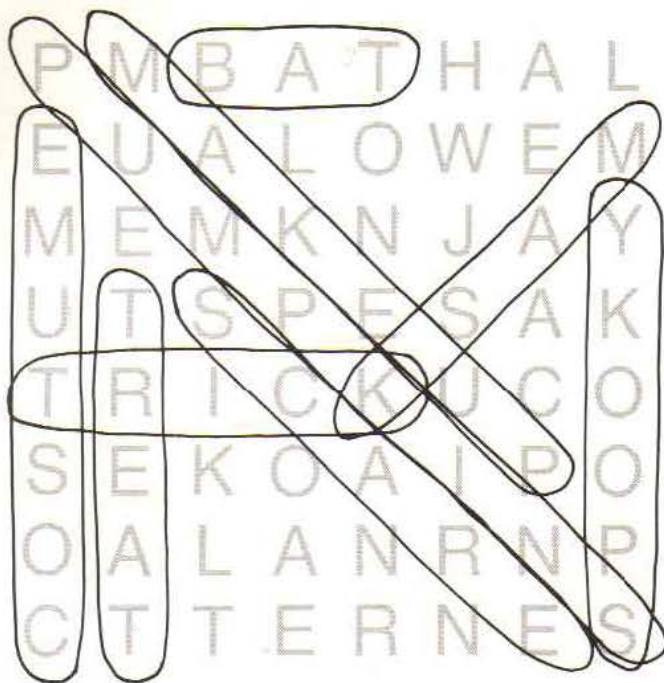
Witch's Delight (pp. 18-19)

The foods that make up the witch and her black cat are almonds, apples, candy corns, grapes, gumdrops, gummy bears, jelly beans, Jordan Almonds, licorice (black and red sticks, strings, drops, and cats), M & Ms, nectarine, peanuts, peppermint candies, pistachio nuts, potatoes, raisins, sesame candies, sourballs, squash, and string beans.

Thank you!

Thanks to Peter Brigham of the Burn Foundation of Greater Delaware Valley and Dr. Stuart Hulnick of St. Christopher Hospital in Philadelphia for information on burns.

Holiday Word Search (page 28)



The answer to the riddle is:

HALLOWEEN JACK-O-LANTERN

Next Month!

Here's a sample of what you'll find in the next issue of 3-2-1 CONTACT.

CONTACTing Astronauts

The stars of CONTACT's TV show visit NASA's astronaut training center.

Lights Fantastic

From movies to supermarkets, lasers are zapping everything in sight.

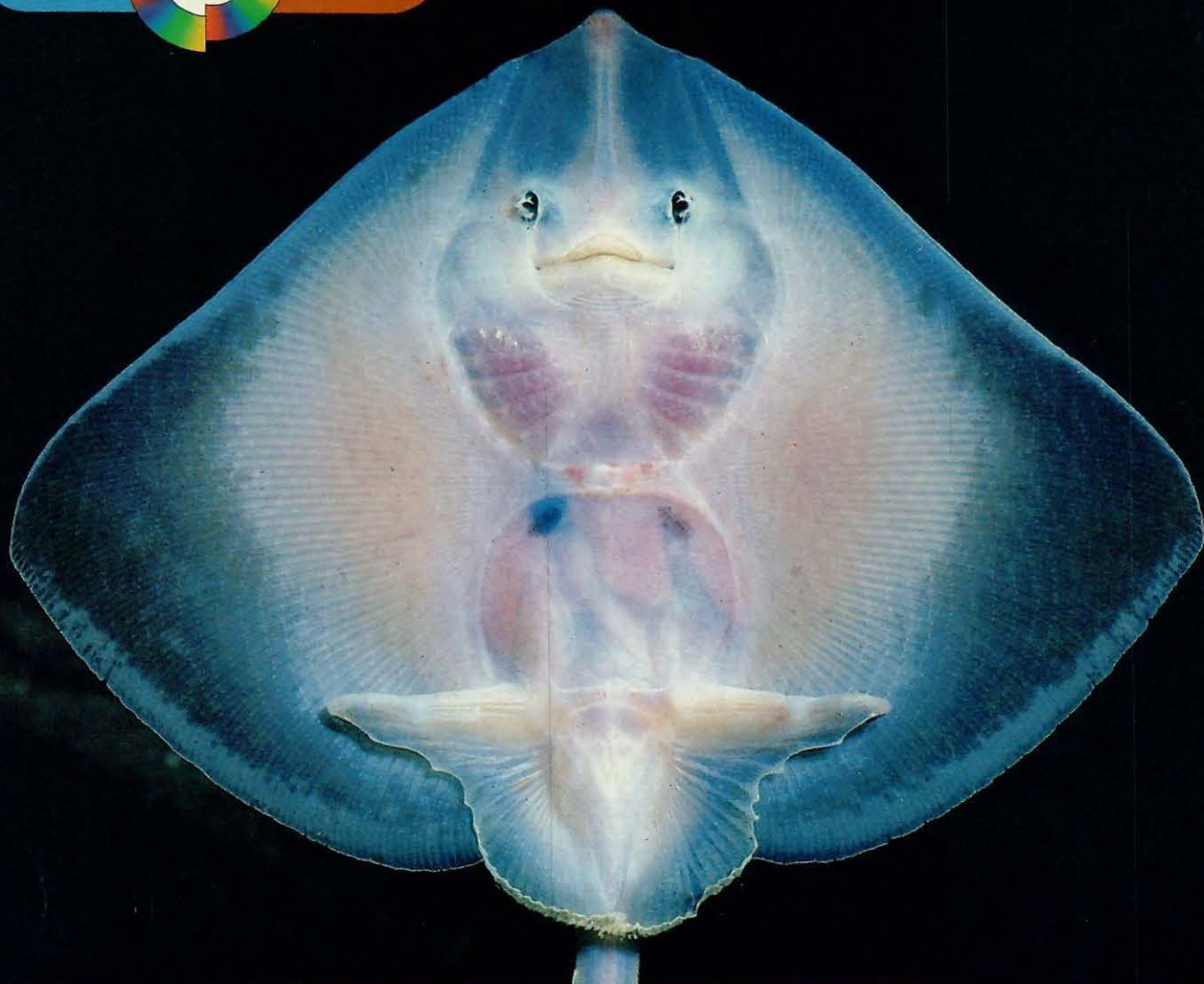
Walkin' Wild

CONTACT visits the Everglades—a place where alligators and panthers run free.

Plus The Bloodhound Gang and More!



Contact Lens



PHOTO, ANIMALS, ANIMALS/© OXFORD SCIENTIFIC FILMS, G.I. BERNARD

This Is A Skate?

This weird looking creature isn't something we dreamed up for Halloween. It's a photo of the underside of a skate—a member of the ray family of flat fish.

The two dots that look like eyes are actually its nose holes. Below the nose is the skate's mouth.

According to Lewis Garibaldi of the New York Aquarium, the skate uses its spiny tail as a rudder to guide it along the ocean floor. There it lays its eggs in tough leather-like shells called *mermaids' purses*. The purse provides protection from other fish. As many as four skates can emerge from each egg.

If the skate looks spooky to you, don't worry. It's harmless. Skates eat shellfish—not people!

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